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Massachusetts Agriculture 1983

Michael S. Dukakis,
Governor

James S. Hoyte,
Secretary of Environmental Affairs

Frederic Winthrop, Jr.,
Commissioner Food and Agriculture

State Food and Agriculture Commissioner Frederic Winthrop, Jr. (right) points to signature of Governor Michael S. Dukakis on "Declaration Of Principle" for a new project called "Agriculture in the Classroom." Ceremomies were held during the June Dairy Festival on Boston Common. The classroom project will help promote a better understanding of agriculture in Massachusetts and across the nation. (see page 61)

Cover photo: View of dairy farm in Millis, Massachusetts owned by Louis DeAngelis. The 81-acre property is one of 93 farm properties selected to date for participation in the state Agricultural Preservation Program. (see page 34)

The Commonwealth of Massachusetts
Department of Food and Agriculture
Leverett Saltonstall Building, Government Center
100 Cambridge Street, Boston 02202

Dear friends of Massachusetts agriculture:

This year has seen positive signs for the future of agriculture in our state, which are borne out by many of the statistics in this annual report.

There are problems nonetheless. Strenuous competition among dealers has resulted in considerable instability in the marketplace. An oversupply of milk nationally is causing downward adjustments in the Federal milk support programs which will have an adverse affect on returns to dairy farmers. Though Massachusetts produces less than 20 per cent of the milk it consumes, Massachusetts and indeed all of the New England dairy farmers tend to be penalized more heavily under this Federal program than are the surplus-producing states in the Midwest where grain is cheaper and operating costs are less.

While this government regulated pricing system may appear unfair, it is a political fact of life and one with which we must cope. Our dairy farmers are among the most efficient in the world but they must learn to be even more efficient. It is important for us to be looking for complementary dairy enterprises on the farm, such as improved techniques in milk marketing, including sale of specialty cheeses, ice cream and yogurt. We also need to consider the security of greater diversity in our production and marketing systems, including striving to meet local demand for lamb, grapes, and small fruits. That is to say that as well as meeting the challenge to be more efficient dairymen, there is a need to discover alternative agricultural uses for the land to make up for anticipated contractions in the dairy industry.

Massachusetts agriculture has survived for more than three centuries because our farmers have been among the first to innovate and improve their agricultural methods. We must continue to do so.

We believe that the state's highly successful land preservation and market promotion efforts are giving farmers the encouragement needed to be forward thinking, progressive, and to make the long term investments required.

Please scan and peruse this report. We are always ready to entertain comments, suggestions and new ideas to improve and expand the agricultural industry in our state. Let us hear from you.

Sincerely,

Frederic Winthrop, Jr.
Commissioner

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MASSACHUSETTS AGRICULTURAL STATISTICS

MASSACHUSETTS DEPARTMENT OF FOOD AND AGRICULTURE
FREDERIC WINTHROP, JR., COMMISSIONER
100 CAMBRIDGE STREET
BOSTON, MASSACHUSETTS 02202
(617) 727-3000

UNITED STATES DEPARTMENT OF AGRICULTURE
JOHN R. BLOCK, SECRETARY

STATISTICAL REPORTING SERVICE
NEW ENGLAND CROP AND LIVESTOCK REPORTING SERVICE
6 LOUDON ROAD
CONCORD, NEW HAMPSHIRE 03301

CHARLES W. HAMMOND, AGRICULTURAL STATISTICIAN-IN-CHARGE
ROWLAND R. SCRANTON, ASSISTANT STATISTICIAN-IN-CHARGE
BEVERLY A. LACROIX, ADMINISTRATIVE

STATISTICIANS

RICHARD BLOOD
JOHN KETCHAM
TOM MARR
ROBIN J. RIPPLE

SUPERVISORY ENUMERATORS

HELEN BARDWELL, HATFIELD
JEAN GIBBS, CARVER

SUPPORT STAFF

LYNNE ARSENAULT
JOSEPHINE EYSSI
CAROLYN HANSON
LAWRENCE KELLY
JOAN PARKER
LEAH ROCHA
JOYCE SUPRY
ADRIENNE ZAPPIA

LIVESTOCK HIGHLIGHTS

Massachusetts livestock producers showed a decline in both inventory numbers and gross income. There were reduced numbers of cattle, hogs and sheep by the end of 1982. Gross income was also lower during the year, but this reduction was the result of a big drop in cattle and calves since sheep and hog gross income were above 1981 by 14 and 39 percent respectively. Gross income from cattle and calves was 30 percent below the previous year.

CATTLE AND CALVES

The inventory of cattle and calves in Massachusetts on January 1, 1983 totaled 96,000 head, down 2,000 head from a year earlier. The inventory consisted of 48,000 milk cows, 9,000 beef cows, 17,000 heifer replacements, 4,000 steers and bulls and 18,000 calves. The inventory value on January 1, 1983 averaged $715 per head, $85 less than the record high on January 1, 1982. This plus the reduced number of cattle and calves caused the current inventory value to be only $68.6 million, 12 percent below the previous year and 16 percent below the record high inventory value of 1981. Marketings in 1982 of 40,000 head of cattle and calves, with a total live weight of 17.6 million pounds, was 7.1 million pounds below the 1981 total marketings. The 1983 calf crop (calves born) was 48,000 head, 2 percent larger than 1981.

HOGS AND PIGS

Massachusetts hog producers had 46,000 hogs on hand December 1, 1982, 6 percent less than the previous year and the lowest amount since records were kept in 1916. Record high value per head ($88.50) enabled total hog value to be nearly $4.1 million, 4 percent above a year earlier and the highest since 1978. Total pig crop was 7 percent above last year's record low. The 61,000 hogs marketed in 1982 represented an 11 percent increase above year ago levels. Massachusetts hog production exceeded 14.5 million pounds, 10 percent above the previous year, while the 14.4 million pounds of hogs marketed, represented an increase of 12 percent. Record price per cwt. ($54.00) enabled hog producers to gross nearly 8.1 million dollars, 39 percent above a year earlier and the largest amount since 1979.

SHEEP, LAMBS AND WOOL PRODUCTION

On January 1, 1983, there were 6,700 sheep and lambs on hand, 1,300 fewer than a year earlier. Of this number, 4,800 were ewes one year old and over, 500 wethers and rams one year old and over, and 1,400 lambs. At an average of $106.00 per head, the value of the inventory was $710,000, 19 percent below the year-ago value. Gross income from sheep and lambs sold, including the value of home consumption, was $326,000, 14 percent above the 1981 income. Wool production totaled 50,000 pounds in 1982, 1,000 pounds more than the previous year. This wool was obtained from 7,600 sheep, up 600 from the 1981 number. Average fleece weight in 1982 was 6.6 pounds, compared with 7.0 pounds in 1981. At an average price of 66 cents per pound, the wool produced in 1982 had a value of $33,000, $11,000 less than the value of the 1981 wool.

CATTLE: NUMBER AND VALUE OF ALL CATTLE AND CALVES ON FARMS, JANUARY 1, MASSACHUSETTS, 1972-1983

YEAR	NUMBER	VALUE	
		PER HEAD	TOTAL
	1,000	*Dollars*	*1,000 Dollars*
1972	110	290	31,900
1973	111	335	37,185
1974	105	420	44,100
1975	107	315	33,705
1976	107	345	36,915
1977	104	380	39,520
1978	99	415	41,085
1979	102	560	57,120
1980	104	685	71,240
1981	104	785	81,640
1982	98	800	78,400
1983	96	715	68,640

CATTLE: JANUARY 1, INVENTORY BY CLASSES, MASSACHUSETTS, 1972-1983

YEAR	ALL CATTLE AND CALVES	COWS & HEIFERS THAT HAVE CALVED		HEIFERS 500 LBS. & OVER			STEERS 500 LBS.+	BULLS 500 LBS.+	STEERS, HEIFERS & BULLS -500 LBS.
				REPLACEMENTS		OTHER			
		BEEF	MILK	BEEF COW	MILK COW				
		1,000			*1,000*			*1,000*	
1972	110	8	58	2	15	2	2	2	21
1973	111	8	57	2	16	2	2	2	22
1974	105	8	54	2	15	2	2	2	20
1975	107	9	54	2	17	1	3	2	19
1976	107	9	55	2	17	1	3	2	18
1977	104	9	53	2	17	1	2	2	18
1978	99	8	51	2	16	1	2	2	17
1979	102	10	49	3	16	1	2	2	19
1980	104	10	45	3	16	1	3	2	24
1981	104	10	45	4	14	1	4	2	24
1982	98	10	47	3	13	1	3	2	19
1983	96	9	48	1	15	1	2	2	18

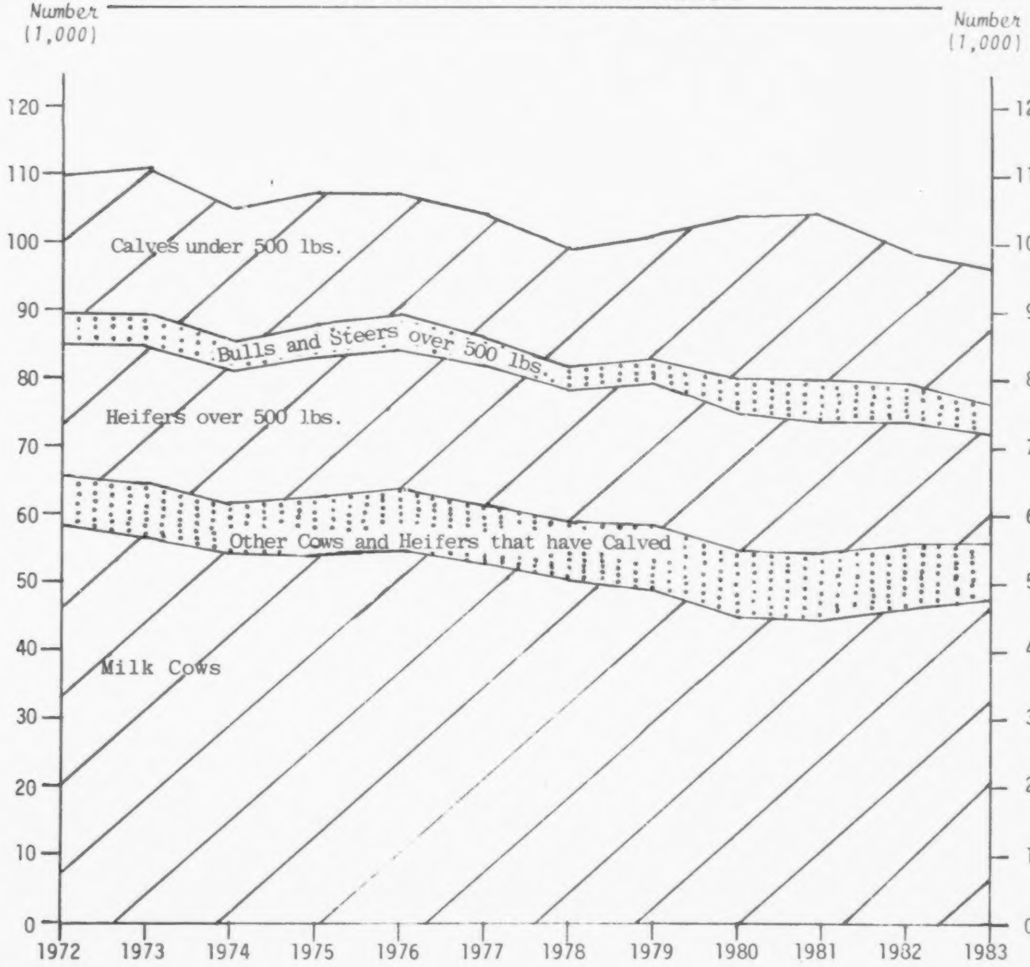
CATTLE AND CALVES: PRODUCTION AND INCOME, MASSACHUSETTS, 1972-1982

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 POUNDS		VALUE OF HOME CONSUMPTION	GROSS INCOME
			CATTLE	CALVES		
	1,000 Pounds		*Dollars*		*1,000 Dollars*	
1972	24,660	32,020	24.20	34.00	416	8,441
1973	28,875	40,115	33.50	44.00	576	14,293
1974	30,405	32,845	27.50	28.00	473	9,516
1975	35,060	27,812	22.40	24.20	925	7,217
1976	33,620	40,230	26.00	28.50	559	11,071
1977	33,240	40,790	26.20	38.20	676	11,591
1978	27,080	26,560	41.90	57.00	1,441	12,846
1979	21,340	21,754	57.00	76.00	1,520	14,248
1980	25,430	23,300	55.00	71.00	1,656	14,673
1981	24,770	24,730	50.00	63.00	1,290	13,984
1982	19,130	17,630	45.00	57.00	1,548	9,785

CATTLE AND CALVES: INVENTORY, SUPPLY, AND DISPOSITION, MASSACHUSETTS, 1972-1982

YEAR	ALL CATTLE ON HAND JAN. 1	CALF CROP	INSHIPMENTS	MARKETINGS		FARM SLAUGHTER	DEATHS	
				CATTLE	CALVES	CATTLE AND CALVES	CATTLE	CALVES
		1,000				*1,000*		
1972	110	60	11	29	33	1	2	5
1973	111	57	10	33	30	1	3	6
1974	105	55	8	27	26	1	2	5
1975	107	56	7	32	22	1	2	6
1976	107	55	7	34	22	1	2	6
1977	104	52	7	35	20	1	2	6
1978	99	50	5	23	19	2	2	6
1979	102	47	1	19	18	1	2	6
1980	104	45	1	21	14	1	3	7
1981	104	47	1	24	22	1	2	5
1982	98	48	1	17	23	1	3	7

MASSACHUSETTS CATTLE INVENTORY NUMBERS



HOGS: NUMBER AND VALUE ON FARMS, DECEMBER 1, MASSACHUSETTS, 1971-1982

YEAR	NUMBER			VALUE	
	BREEDING	MARKET	TOTAL	PER HEAD	TOTAL
		1,000		*Dollars*	*1,000 Dollars*
1971	9	64	73	32.00	2,336
1972	9	54	63	37.50	2,363
1973	10	50	60	62.50	3,750
1974	8	43	51	48.00	2,448
1975	8	42	50	64.50	3,225
1976	7	43	50	50.50	2,525
1977	8	52	60	59.50	3,570
1978	8	52	60	76.50	4,590
1979	9	51	60	55.50	3,330
1980	7	42	49	74.50	3,651
1981	6	43	49	79.50	3,896
1982	7	39	46	88.50	4,071

HOGS: PIG CROP, SOWS FARROWED AND PIGS SAVED, MASSACHUSETTS, 1972-1982

YEAR	SPRING CROP (DEC - MAY)			FALL CROP (JUN - NOV)			TOTAL PIG CROP
	SOWS	PIGS PER LITTER	PIGS SAVED	SOWS	PIGS PER LITTER	PIGS SAVED	
		Head			*Head*		*Head*
1972	7,000	6.3	44,000	7,000	6.2	43,000	87,000
1973	7,000	6.0	42,000	7,100	6.0	43,000	85,000
1974	7,000	6.0	42,000	6,800	6.0	41,000	83,000
1975	7,000	6.2	43,000	6,800	5.7	39,000	82,000
1976	6,600	6.8	45,000	5,700	6.5	37,000	82,000
1977	5,000	6.9	35,000	6,500	6.6	43,000	78,000
1978	5,000	7.2	36,000	6,000	6.8	41,000	77,000
1979	6,000	6.5	39,000	6,500	6.5	42,000	81,000
1980	4,000	7.4	30,000	6,000	5.8	35,000	65,000
1981	4,000	6.6	26,000	5,000	6.4	32,000	58,000
1982	3,700	7.5	28,000	4,500	7.6	34,000	62,000

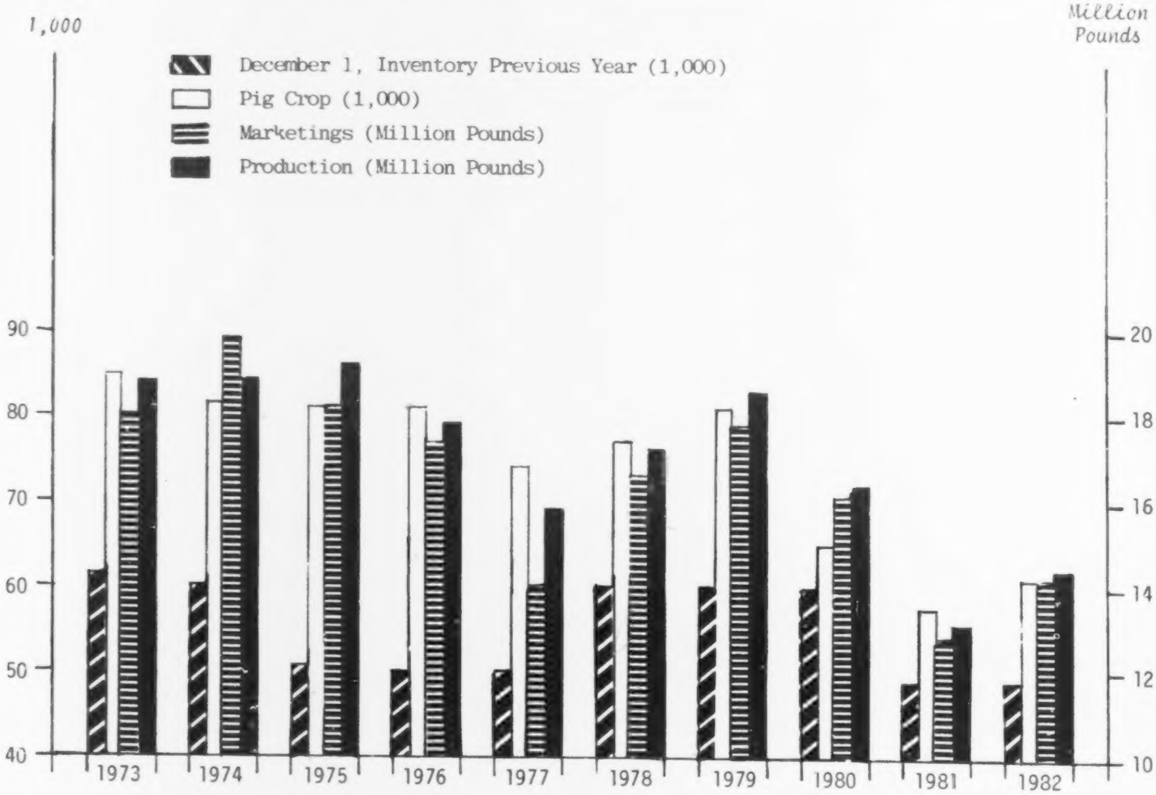
HOGS: INVENTORY NUMBERS, PIG CROP AND DISPOSITION, MASSACHUSETTS, 1972-1982

YEAR	ON HAND DEC. 1st PREVIOUS YEAR	PIG CROP		MARKETINGS	FARM SLAUGHTER	DEATHS
		DEC - MAY	JUN - NOV			
		Head			*Head*	
1972	73,000	44,000	43,000	89,000	1,000	7,000
1973	63,000	42,000	43,000	80,000	1,000	7,000
1974	60,000	42,000	41,000	86,000	1,000	5,000
1975	51,000	43,000	39,000	78,000	1,000	4,000
1976	50,000	45,000	37,000	75,000	1,000	6,000
1977	50,000	35,000	43,000	61,000	1,000	6,000
1978	60,000	36,000	41,000	71,000	1,000	5,000
1979	60,000	39,000	42,000	76,000	1,000	4,000
1980	60,000	30,000	35,000	71,000	2,000	3,000
1981	49,000	26,000	32,000	55,000	1,000	2,000
1982	49,000	28,000	34,000	61,000	1,000	3,000

HOGS: PRODUCTION AND INCOME, MASSACHUSETTS, 1972-1982

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 POUNDS	VALUE OF HOME CONSUMPTION	GROSS INCOME
	1,000 Pounds		Dollars	1,000 Dollars	
1972	19,191	19,835	25.00	110	5,069
1973	18,862	18,068	37.00	171	6,856
1974	18,764	19,910	33.00	254	6,824
1975	19,100	18,260	45.00	347	8,564
1976	17,891	17,378	45.00	354	8,174
1977	15,832	14,063	37.00	291	5,494
1978	17,211	16,640	45.00	304	7,792
1979	18,640	17,820	44.00	297	8,138
1980	16,412	16,185	37.00	500	6,488
1981	13,267	12,825	43.00	290	5,805
1982	14,547	14,380	54.00	316	8,081

TREND IN DECEMBER 1 INVENTORY, PIG CROP, MARKETINGS AND PRODUCTION, MASSACHUSETTS, 1973-1982



SHEEP AND LAMBS: INVENTORY NUMBER BY CLASS AND VALUE, JANUARY 1, MASSACHUSETTS, 1972-1983

YEAR	LAMBS			ONE YEAR AND OVER		ALL SHEEP AND LAMBS	VALUE	
	ALL LAMBS	EWES	WETHERS AND RAMS	EWES	WETHERS AND RAMS		PER HEAD	TOTAL
	Head						Dollars	1,000 Dollars
1972	1,400	1,000	400	5,800	600	7,800	20.00	156
1973	1,400	1,000	400	5,500	600	7,500	28.00	210
1974	1,400	1,000	400	5,000	500	6,900	40.00	276
1975	1,500	1,100	400	5,100	400	7,000	46.50	326
1976	1,500	1,100	400	5,300	400	7,200	46.00	331
1977	1,400	1,000	400	4,900	400	6,700	48.00	322
1978	1,600	1,100	500	4,700	500	6,800	53.50	364
1979	1,300	1,000	300	4,900	500	6,700	63.00	422
1980	1,600	1,200	400	5,000	500	7,100	78.50	557
1981	1,600	1,200	400	5,100	500	7,200	88.00	634
1982	1,900	1,400	500	5,600	500	8,000	109.00	872
1983	1,400	1,100	300	4,800	500	6,700	106.00	710

SHEEP AND LAMBS: INVENTORY NUMBERS, LAMB CROP AND DISPOSITION, MASSACHUSETTS, 1972-1982

YEAR	ALL SHEEP AND LAMBS ON HAND JAN. 1	LAMB CROP	MARKETINGS		FARM SLAUGHTER SHEEP & LAMBS	DEATHS SHEEP & LAMBS
			SHEEP	LAMBS		
	Head			Head		
1972	7,800	5,600	1,500	3,100	200	1,100
1973	7,500	5,300	1,500	2,900	400	1,100
1974	6,900	5,200	1,200	2,600	200	1,100
1975	7,000	5,500	900	2,900	400	1,100
1976	7,200	5,600	1,500	3,300	300	1,000
1977	6,700	5,700	1,100	3,100	400	1,000
1978	6,800	5,300	1,000	2,900	500	1,000
1979	6,700	5,100	800	2,500	500	900
1980	7,100	5,600	1,200	2,700	600	1,000
1981	7,200	6,800	700	3,300	800	1,200
1982	8,000	5,600	2,500	3,300	300	800

SHEEP AND LAMBS: PRODUCTION AND INCOME, MASSACHUSETTS, 1972-1982

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 POUNDS SHEEP	PRICE PER 100 POUNDS LAMBS	VALUE OF HOME CONSUMPTION	GROSS INCOME
	1,000 Pounds		*Dollars*		*1,000 Dollars*	
1972	382	397	12.00	32.50	7	105
1973	366	395	14.00	41.00	21	133
1974	349	318	17.00	37.00	10	101
1975	372	296	26.00	68.00	35	193
1976	382	393	28.00	72.00	35	244
1977	431	357	29.00	72.00	46	244
1978	406	329	38.00	84.00	67	282
1979	382	246	39.00	85.00	82	245
1980	428	300	42.00	77.00	89	268
1981	423	207	45.00	100.00	127	286
1982	377	404	41.00	94.00	112	325

WOOL: PRODUCTION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	SHEEP SHORN	WEIGHT PER FLEECE	SHORN WOOL PRODUCTION	PRICE PER POUND	VALUE
	Head	*Pounds*	*1,000 Pounds*	*Cents*	*1,000 Dollars*
1972	7,200	7.2	52	34	18
1973	6,900	7.2	50	71	36
1974	6,600	7.4	49	62	30
1975	6,400	7.2	46	31	14
1976	6,700	6.9	46	60	28
1977	6,200	7.1	44	78	34
1978	6,300	6.8	43	74	32
1979	6,600	6.8	45	84	38
1980	6,800	6.9	47	88	41
1981	7,000	7.0	49	90	44
1982	7,600	6.6	50	66	33

DAIRY HIGHLIGHTS

MILK PRODUCTION:

Milk production from Massachusetts farms totaled 595 million pounds in 1982, 3 percent more than in 1981 and the largest since 1977. The increase was the result of a record high rate of 12,935 pounds per cow in 1982. This continues the long term upward trend with an increase of 370 pounds above the 1981 average and 544 above 1980. The average number of cows remained unchanged at 46,000 head for the past three years.

MILK DISPOSITION AND PRICE:

Dairymen in the Commonwealth used 6 million pounds of milk to feed calves and another 4 million pounds for home use in 1982. The amount fed to calves was 1 million pounds above the previous year, but home use remained unchanged. Milk marketed in 1982 totaled 585 million pounds, an increase of 16 million pounds above the 1981 total and the largest since 1977. The average price received for milk marketed during 1982 was $15.02 per cwt., 9¢ lower than the 1981 record high average. With the increase in the amount marketed, the 1982 cash receipts rose to $87.9 million, 2 percent above 1981.

MANUFACTURED DAIRY PRODUCTS:

With the increase in milk production, the manufacture of dairy products remains important. The production of ice cream during 1982 in the Commonwealth totaled 44.4 million gallons, 3 percent above the 1981 total. Milk sherbet production also increased to 2.2 million gallons, 5 percent above the previous year. Cheese production in Massachusetts totaled 9.1 million pounds, 6 percent above the 1981 total.

MILK COWS: AVERAGE NUMBER ON FARMS, BY QUARTERS AND ANNUAL, MASSACHUSETTS, 1972-1982

YEAR	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC	ANNUAL
			1,000		
1972	57	57	57	57	57
1973	56	55	54	54	55
1974	54	54	54	54	54
1975	55	54	54	55	55
1976	55	54	53	53	54
1977	52	51	51	51	51
1978	50	48	48	49	49
1979	49	48	47	46	48
1980	46	46	46	46	46
1981	45	46	47	47	46
1982	47	46	45	46	46

MILK PRODUCTION: AVERAGE PER COW, BY QUARTERS AND ANNUAL, MASSACHUSETTS, 1972-1982

YEAR	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC	ANNUAL
			Pounds		
1972	2,795	2,965	2,650	2,580	11,035
1973	2,715	2,930	2,610	2,610	10,818
1974	2,705	2,945	2,720	2,610	10,981
1975	2,725	2,960	2,720	2,620	10,927
1976	2,735	2,950	2,750	2,700	11,074
1977	2,850	3,060	2,890	2,870	11,706
1978	2,900	3,110	2,920	2,820	11,673
1979	2,920	3,090	2,940	2,980	11,792
1980	3,110	3,240	3,000	3,050	12,391
1981	3,180	3,295	3,020	3,000	12,565
1982	3,175	3,375	3,200	3,200	12,935

MILK PRODUCTION, BY QUARTERS AND ANNUAL, MASSACHUSETTS, 1972-1982

YEAR	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC	ANNUAL
			Million Pounds		
1972	162	169	151	147	629
1973	152	161	141	141	595
1974	146	159	147	141	593
1975	150	160	147	144	601
1976	150	159	146	143	598
1977	148	156	147	146	597
1978	145	149	140	138	572
1979	143	148	138	137	566
1980	143	149	138	140	570
1981	143	152	142	141	578
1982	149	155	144	147	595

MILK: QUANTITY MARKETED, PRICE AND CASH RECEIPTS, MASSACHUSETTS, 1972-1982

YEAR	SOLD TO PLANTS			SOLD DIRECTLY TO CONSUMERS			COMBINED MARKETINGS		
	QUANTITY	PRICE PER CWT.	CASH RECEIPTS	QUANTITY	PRICE PER QT.	CASH RECEIPTS	QUANTITY	PRICE PER CWT.	CASH RECEIPTS
	Million Pounds	*Dollars*	*1,000 Dollars*	*Million Quarts*	*Cents*	*1,000 Dollars*	*Million Pounds*	*Dollars*	*1,000 Dollars*
1972	580	7.23	41,934	17.2	32	5,507	617	7.69	47,441
1973	550	8.22	45,210	15.3	35	5,372	583	8.68	50,582
1974	550	9.50	52,250	14.4	40	5,768	581	9.99	58,018
1975	555	9.65	53,588	15.8	40	6,326	589	10.17	59,884
1976	550	10.70	58,850	16.7	42	7,032	586	11.24	65,882
1977	550	10.70	58,850	16.7	42	7,032	586	11.24	65,882
1978	530	11.50	60,950	14.9	43	6,400	562	11.98	67,350
1979	525	12.80	67,200	14.4	46	6,633	556	13.28	73,833
1980	530	13.70	72,610	14.0	51	7,116	560	14.24	79,726
1981	540	14.60	78,840	13.5	53	7,149	569	15.11	85,989
1982	550	14.50	80,475	14.0	53	7,395	585	15.02	87,870

MILK: QUANTITIES USED AND MARKETED BY FARMERS, MASSACHUSETTS, 1972-1982

YEAR	TOTAL PRODUCED	MILK, USED ON FARMS WHERE PRODUCED			MILK MARKETED BY FARMERS		
		USED FOR MILK CREAM & BUTTER	FED TO CALVES	TOTAL	SOLD TO PLANTS & DEALERS	SOLD DIRECTLY TO CONSUMERS	TOTAL
				Million Pounds			
1972	629	7	5	12	580	37	617
1973	595	7	5	12	550	33	583
1974	593	7	5	12	550	31	581
1975	601	7	5	12	555	34	589
1976	598	7	5	12	550	36	586
1977	597	6	5	11	550	36	586
1978	572	5	5	10	530	32	562
1979	566	4	6	10	525	31	556
1980	570	4	6	10	530	30	560
1981	578	4	5	9	540	29	569
1982	595	4	6	10	555	30	585

MILK: SOLD TO PLANTS, MONTHLY AND ANNUAL AVERAGE PRICE PER CWT.
RECEIVED BY FARMERS, MASSACHUSETTS, 1972-1982

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL AVERAGE
							Dollars						
1972	7.20	7.25	7.00	6.70	6.65	6.50	6.95	7.45	7.80	7.95	7.95	7.65	7.23
1973	7.70	7.75	7.55	7.30	7.20	7.20	7.75	8.55	9.25	9.55	9.80	9.70	8.22
1974	9.80	9.90	9.85	9.80	9.25	8.50	8.90	9.40	9.70	9.80	10.00	9.45	9.50
1975	9.55	9.50	9.15	8.95	8.50	8.35	9.05	9.65	10.30	10.80	11.10	11.20	9.65
1976	11.10	10.80	10.70	10.00	9.90	9.75	10.40	11.00	11.30	11.50	11.20	10.70	10.70
1977	10.60	10.50	10.20	10.20	9.90	10.00	10.50	10.90	11.20	11.40	11.40	11.20	10.70
1978	11.10	11.20	11.00	10.70	10.70	10.60	11.00	11.60	12.10	12.70	12.90	12.70	11.50
1979	12.70	12.80	12.50	12.20	12.00	12.00	12.50	13.10	13.40	13.80	13.90	13.40	12.80
1980	13.60	13.40	13.30	13.00	13.00	12.80	13.30	13.70	14.20	14.70	14.80	14.70	13.70
1981	14.90	14.70	14.50	14.30	14.00	13.80	14.30	14.60	14.90	15.20	15.00	14.80	14.60
1982	14.90	14.70	14.50	14.20	13.80	13.70	14.20	14.60	14.90	15.00	15.10	14.80	14.50

MILK: FARM PRODUCTION AND VALUE OF MILK AND MILK PRODUCTS SOLD, MASSACHUSETTS, 1972-1982

YEAR	AVERAGE NUMBER OF MILK COWS ON FARMS	PRODUCTION					FARM VALUE OF MILK PRODUCED
		PER MILK COW		PERCENTAGE OF FAT IN ALL MILK PRODUCED	TOTAL		
		MILK	MILKFAT		MILK	MILKFAT	
	1,000	*Pounds*		*Percent*	*Million Pounds*		*1,000 Dollars*
1972	57	11,035	409	3.71	629	23	48,370
1973	55	10,818	395	3.65	595	22	51,646
1974	54	10,981	402	3.66	593	22	59,241
1975	55	10,927	397	3.63	601	22	61,122
1976	54	11,074	405	3.66	598	22	67,215
1977	51	11,706	431	3.68	597	22	67,103
1978	49	11,673	428	3.67	572	21	68,526
1979	48	11,792	429	3.64	566	21	75,165
1980	46	12,391	447	3.61	570	21	81,168
1981	46	12,565	456	3.63	578	21	87,336
1982	46	12,935	471	3.64	595	22	89,369

MANUFACTURED DAIRY: PRODUCTION MAJOR PRODUCTS, MASSACHUSETTS, 1972-1982

YEAR	TOTAL CHEESE	ICE CREAM	ICE MILK	MILK SHERBET
	1,000 Pounds	*1,000 Gallons*		
1972	6,416	41,025	8,802	2,393
1973	5,976	42,302	7,742	2,330
1974	5,412	43,607	9,611	2,186
1975	5,288	47,761	9,177	1,985
1976	6,123	46,320	7,246	2,116
1977	5,786	45,255	7,483	2,180
1978	7,780	42,909	9,779	2,102
1979	6,255	42,463	10,454	1,829
1980	5,099	43,986	9,817	1,992
1981	8,559	43,193	10,173	2,089
1982	9,110	44,444	6,574	2,198

POULTRY HIGHLIGHTS

EGGS:

In 1982, Massachusetts egg production totaled 314 million eggs, 2 percent lower than previous year and lowest since 1932. The average daily rate of lay per 100 birds was 66.3 eggs per day, down from the record high of 67.4 eggs per day in 1981. Poultrymen received an average of 84¢ per dozen for eggs in 1982, down 2¢ a dozen from the record high in 1981. Gross income from egg production in 1982 was $22.0 million, $1.0 million lower than the gross in 1981.

CHICKENS:

The December 1, 1982 inventory of chickens on farms (excluding broilers) in Massachusetts totaled 1.5 million birds, 4 percent below a year ago and the lowest of record. The inventory revealed that on December 1, 1982, the number of hens of laying age increased 14 percent, while the number of pullets of laying age was 26 percent below December 1, 1981. Total value of all chickens on hand in the Commonwealth on December 1, 1982 was $3.9 million, 4 percent lower than a year ago. Poultrymen marketed 4.8 million pounds of poultry during 1982 at 8.0¢ per pound compared to 9.1 million pounds at 9.0¢ per pound the previous year.

TURKEYS:

Massachusetts farmers raised 145,000 turkeys during 1982, unchanged from the year before. There were 3.1 million pounds live weight produced from the turkeys raised in 1982, up 44,000 pounds from the total production in 1981. The value of production increased to $2.4 million due to increase in pounds produced as the price per pound remained unchanged from the 77¢ per pound in 1981.

POULTRY: INVENTORY BY CLASS AND VALUE, MASSACHUSETTS, DECEMBER 1, 1971-1982

YEAR	CHICKENS, EXCLUDING BROILERS						VALUE PER HEAD	TOTAL VALUE
	HENS AND PULLETS OF LAYING AGE		PULLETS NOT OF LAYING AGE		OTHER	TOTAL		
	HENS	PULLETS	3 MONTHS AND OLDER	UNDER 3 MONTHS				
			1,000				*Dollars*	*1,000 Dollars*
1971	886	1,313	288	249	33	2,769	1.85	5,123
1972	729	1,069	228	221	32	2,279	1.40	3,191
1973	896	807	251	255	31	2,240	2.00	4,480
1974	772	939	224	271	31	2,237	2.10	4,698
1975	725	786	293	268	19	2,091	2.35	4,914
1976	593	782	239	241	15	1,870	2.40	4,488
1977	465	1,005	290	180	50	1,990	2.05	4,080
1978	550	620	196	174	40	1,580	2.05	3,239
1979	617	755	126	197	31	1,726	2.15	3,711
1980	644	811	108	209	18	1,790	2.30	4,117
1981	650	622	141	153	37	1,603	2.55	4,088
1982	742	458	156	166	18	1,540	2.55	3,927

POULTRY: AVERAGE NUMBER OF LAYERS BY MONTHS AND ANNUAL, MASSACHUSETTS, 1972-1982

MONTH	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
						1,000					
DEC 1/	2,188	1,800	1,717	1,751	1,504	1,434	1,447	1,253	1,342	1,412	1,299
JAN	2,166	1,813	1,676	1,742	1,496	1,501	1,402	1,338	1,320	1,362	1,357
FEB	2,091	1,790	1,602	1,715	1,474	1,515	1,440	1,400	1,331	1,322	1,378
MAR	2,026	1,740	1,565	1,743	1,429	1,509	1,500	1,480	1,339	1,326	1,354
APR	2,036	1,717	1,536	1,718	1,401	1,514	1,503	1,435	1,332	1,334	1,340
MAY	2,046	1,704	1,530	1,668	1,408	1,539	1,484	1,385	1,318	1,293	1,326
JUN	2,005	1,674	1,533	1,637	1,428	1,519	1,392	1,395	1,300	1,220	1,278
JUL	1,974	1,668	1,550	1,662	1,415	1,521	1,340	1,421	1,309	1,195	1,272
AUG	1,944	1,680	1,591	1,679	1,400	1,515	1,388	1,416	1,355	1,211	1,266
SEP	1,904	1,675	1,633	1,614	1,399	1,435	1,395	1,365	1,383	1,272	1,245
OCT	1,894	1,687	1,676	1,566	1,406	1,401	1,383	1,373	1,387	1,368	1,230
NOV	1,841	1,700	1,705	1,537	1,398	1,440	1,280	1,384	1,420	1,329	1,215
ANNUAL	2,010	1,721	1,610	1,669	1,430	1,487	1,413	1,387	1,345	1,303	1,297

EGGS: DAILY RATE OF LAY BY MONTHS AND ANNUAL, MASSACHUSETTS, 1972-1982

MONTH	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
						Percent					
DEC 1/	62.6	63.0	65.4	64.0	65.5	65.3	63.1	67.0	67.3	66.3	69.5
JAN	63.7	61.7	64.7	64.5	65.0	65.2	64.5	67.1	66.0	63.9	66.5
FEB	63.7	62.8	64.1	64.1	64.5	63.9	66.0	67.6	67.3	64.8	64.8
MAR	63.9	62.7	64.2	64.6	65.8	64.4	65.0	67.9	67.5	68.1	65.2
APR	63.6	64.5	64.4	67.0	67.8	65.5	65.7	67.1	67.6	67.5	66.8
MAY	63.3	66.3	65.2	68.0	68.3	66.9	67.2	64.9	66.1	70.0	67.6
JUN	64.8	63.8	65.4	67.5	67.3	69.3	67.9	64.7	66.7	71.0	67.7
JUL	64.9	60.7	65.0	66.3	66.0	66.0	67.4	66.4	66.5	67.5	67.0
AUG	63.7	61.0	63.6	66.0	64.0	63.4	66.2	66.7	61.9	69.3	66.2
SEP	62.1	62.1	61.7	65.8	62.3	64.4	66.3	67.3	62.7	68.1	64.8
OCT	61.6	61.8	62.0	65.8	63.5	65.1	66.8	67.0	67.5	66.0	65.1
NOV	63.9	63.2	63.5	66.3	65.3	64.7	66.8	67.9	68.1	67.7	65.4
ANNUAL	63.3	62.6	64.0	66.0	65.5	65.4	66.1	67.0	66.2	67.4	66.3

EGGS: TOTAL PRODUCTION BY MONTHS AND ANNUAL, MASSACHUSETTS, 1972-1982

MONTH	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
						Million					
DEC 1/	42	35	35	35	31	29	28	26	28	29	28
JAN	43	35	34	35	30	30	28	28	27	27	28
FEB	39	31	29	31	28	27	27	27	26	24	25
MAR	40	34	31	35	29	30	30	31	28	28	27
APR	39	33	30	35	28	30	30	29	27	27	27
MAY	40	35	31	35	30	32	31	28	27	28	28
JUN	39	32	30	33	29	32	28	27	26	26	26
JUL	40	31	31	34	29	31	28	29	27	25	26
AUG	38	32	31	34	28	30	28	29	26	26	26
SEP	35	31	30	32	26	28	28	28	26	26	24
OCT	36	32	32	32	28	28	29	29	29	28	25
NOV	35	32	32	31	27	28	26	28	29	27	24
ANNUAL	466	393	376	402	343	355	341	339	326	321	314

1/ December previous year

CHICKENS: PRODUCTION, DISPOSITION AND GROSS INCOME, MASSACHUSETTS, 1972-1982

YEAR	NUMBER OF BIRDS			LIVEWEIGHT			PRICE PER POUND	GROSS INCOME
	PRODUCED	CONSUMED	SOLD	PRODUCED	CONSUMED	SOLD		
	1,000			*1,000 Pounds*			*Cents*	*1,000 Dollars*
1972	1,503	12	1,981	8,273	55	10,697	9.5	1,021
1973	1,673	12	1,700	8,676	55	9,010	15.4	1,396
1974	1,706	12	1,697	10,037	55	10,012	10.3	1,037
1975	1,371	11	1,506	7,111	51	7,982	10.3	827
1976	1,090	11	1,300	6,186	51	7,150	13.3	958
1977	1,331	11	1,200	7,475	51	6,600	11.3	752
1978	901	11	1,300	5,134	51	7,150	12.3	885
1979	1,057	11	900	5,835	51	4,950	13.2	660
1980	1,225	11	1,150	6,708	51	6,325	8.3	529
1981	1,474	11	1,650	8,266	51	9,075	9.0	822
1982	828	11	880	4,457	51	4,840	8.0	391

EGGS: PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	EGGS PRODUCED	EGGS SOLD	PRICE PER DOZEN	CASH INCOME FROM FARM SALES	GROSS INCOME
	Million		*Cents*	*1,000 Dollars*	
1972	466	465	42.9	16,624	16,660
1973	393	392	62.9	20,547	20,599
1974	376	375	64.5	20,156	20,210
1975	402	401	66.2	22,122	22,177
1976	343	342	72.1	20,549	20,609
1977	355	354	69.9	20,621	20,679
1978	341	340	66.2	18,757	18,812
1979	339	338	73.8	20,787	20,849
1980	326	325	74.5	20,177	20,239
1981	321	320	86.0	22,933	23,005
1982	314	313	84.0	21,910	21,980

TURKEYS: PRODUCTION, PRICE AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	TURKEYS RAISED		NUMBER PRODUCED	POUNDS PRODUCED	PRICE PER POUND	VALUE OF PRODUCTION
	HEAVY	LIGHT				
		1,000		*1,000 Pounds*	*Cents*	*1,000 Dollars*
1972	141	29	170	3,383	36.0	1,218
1973	144	29	173	3,287	62.0	2,038
1974	139	33	172	3,268	57.0	1,863
1975	106	19	125	2,375	58.0	1,378
1976	122	21	143	2,860	58.0	1,659
1977	110	15	125	2,600	58.0	1,508
1978	128	18	146	2,993	68.0	2,035
1979	133	7	140	2,800	65.0	1,820
1980	126	0	126	2,470	78.0	1,927
1981	145	0	145	3,045	77.0	2,345
1982	145	0	145	3,089	77.0	2,379

CROP HIGHLIGHTS

CORN SILAGE:

Production of corn silage totaled 663,000 tons in 1982, 15 percent less than last year. A decline in yield from 20.0 tons per acre in 1981 to 17.0 in 1982 was responsible for the reduction, as acres harvested were 39,000 in both years. Value of the 1982 silage was $18.8 million, down 6 percent from 1981. A cool, wet June put the crop about 2 weeks behind normal, resulting in much of the crop being put up while it was still immature.

HAY:

Production of all hay totaled 293,000 tons, 5 percent more than last year. Both acres harvested, at 123,000, and average yield, at 2.38 tons per acre, were higher in 1982 than in 1981. At an average price of $88.00 per ton, the hay crop had a value of $25.8 million in 1982, up 16 percent from the preceding year. Cool, rainy weather in June interfered with putting in the first cutting until some of it became overripe.

Alfalfa and mixtures containing alfalfa totaled 81,000 tons, or 28 percent of all hay. This compares with 78,000 tons of alfalfa last year. Alfalfa hay yield averaged 2.80 tons per acre in both years.

All other hay production totaled 212,000 tons in 1982, up 6 percent from the 1981 total. Average yield in 1982 was 2.25 tons per acre, up from 2.15 tons in 1981.

TOBACCO:

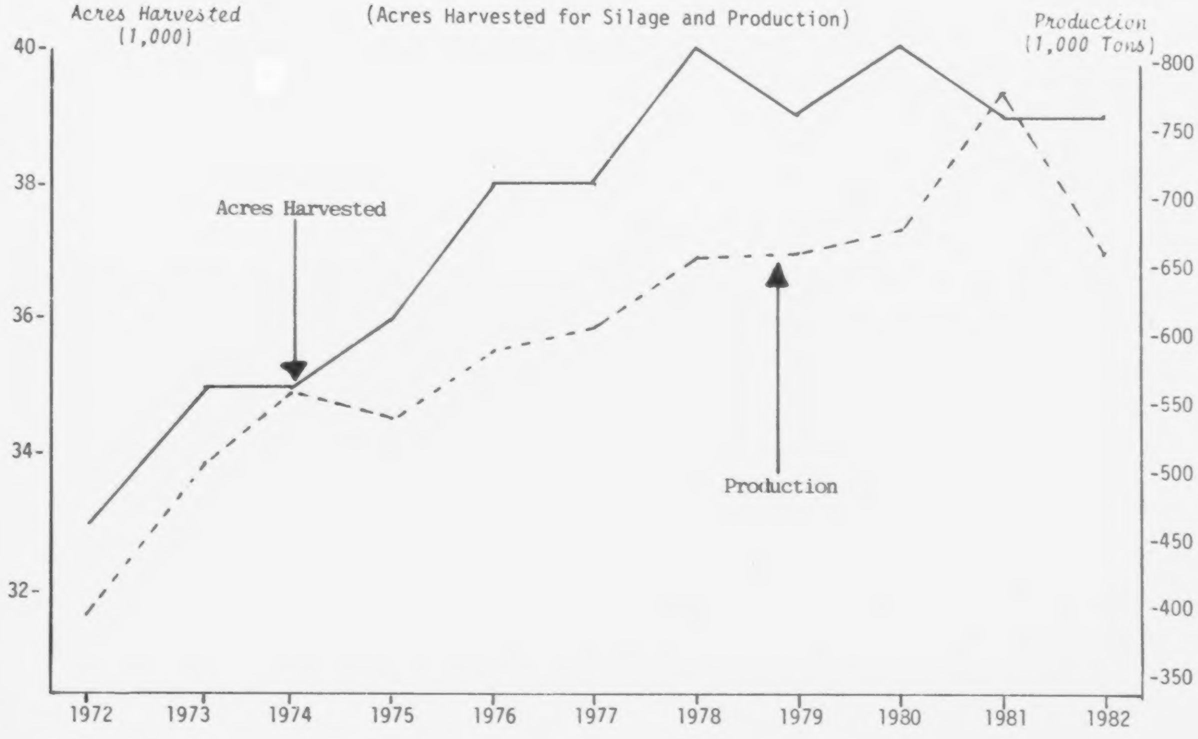
Massachusetts tobacco production in 1982 totaled 887,000 pounds, less than half the 1981 crop due to a sharp fall-off in harvested shade acreage. Havana Seed production, at 587,000 pounds, is up 6 percent, while the shade crop, at 300,000 pounds fell to one quarter of 1981 output. Shade growers in the Commonwealth withdrew 650 acres of the wrapper type from production in 1982. Yields also averaged below a year ago. Excessive rainfall in June caused heavy fertilizer leaching, stunted plant growth, and ultimately, reduced yields for both types.

CORN: ACREAGE, YIELD, PRODUCTION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	ACRES PLANTED FOR ALL PURPOSES	SILAGE			
		ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	VALUE OF PRODUCTION
	1,000	*1,000*	*Tons*	*1,000 Tons*	*1,000 Dollars*
1972	35	33	12.0	396	5,346
1973	37	35	14.5	508	7,366
1974	38	35	16.0	560	10,080
1975	39	36	15.0	540	11,475
1976	43	38	15.5	589	12,987
1977	44	38	16.0	608	13,923
1978	45	40	16.5	660	14,850
1979	44	39	17.0	663	16,575
1980	45	40	17.0	680	19,380
1981	46	39	20.0	780	19,968
1982	46	39	17.0	663	18,763

MASSACHUSETTS CORN

(Acres Harvested for Silage and Production)



ALFALFA HAY: ACREAGE, YIELD AND PRODUCTION, MASSACHUSETTS, 1972-1982

YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION
	1,000	*Tons*	*1,000 Tons*
1972	28	2.25	63
1973	28	2.55	71
1974	25	2.55	64
1975	26	2.60	68
1976	26	2.45	64
1977	28	2.30	64
1978	28	2.60	73
1979	27	2.90	78
1980	27	2.40	65
1981	28	2.80	78
1982	29	2.80	81

ALL OTHER HAY: ACREAGE, YIELD AND PRODUCTION, MASSACHUSETTS, 1972-1982

YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION
	1,000	*Tons*	*1,000 Tons*
1972	81	1.75	142
1973	84	2.15	181
1974	90	2.00	180
1975	92	2.05	189
1976	94	2.00	188
1977	92	1.90	175
1978	92	2.15	198
1979	92	2.25	207
1980	92	2.10	193
1981	93	2.15	200
1982	94	2.25	212

ALL HAY: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION	PRICE PER TON	VALUE OF PRODUCTION
	1,000	*Tons*	*1,000 Tons*	*Dollars*	*1,000 Dollars*
1972	109	1.88	205	51.00	10,455
1973	112	2.25	252	50.00	12,600
1974	115	2.12	244	63.00	15,183
1975	118	2.18	257	79.00	19,355
1976	120	2.10	252	71.00	18,034
1977	120	1.99	239	69.00	16,077
1978	120	2.26	271	73.00	19,783
1979	119	2.39	285	72.00	20,520
1980	119	2.17	258	76.00	19,608
1981	121	2.30	278	80.00	22,240
1982	123	2.38	293	88.00	25,784

TOBACCO, SHADE TYPE: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	PRICE PER POUND	VALUE OF PRODUCTION
		Pounds	*1,000 Pounds*	*Dollars*	*1,000 Dollars*
1972	1,150	1,250	1,438	4.85	6,974
1973	1,300	1,210	1,573	5.15	8,101
1974	1,300	1,610	2,093	6.00	12,558
1975	1,250	1,335	1,669	6.40	10,682
1976	1,050	1,480	1,554	5.40	8,392
1977	980	1,600	1,568	6.00	9,408
1978	860	1,300	1,118	7.50	8,385
1979	770	1,400	1,078	8.50	9,163
1980	940	1,475	1,387	9.80	13,593
1981	900	1,575	1,418	10.00	14,180
1982	250	1,200	300	12.50	3,750

TOBACCO, HAVANA SEED: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	PRICE PER POUND	VALUE OF PRODUCTION
		Pounds	*1,000 Pounds*	*Dollars*	*1,000 Dollars*
1972	260	1,850	481	0.62	298
1973	210	1,850	389	0.72	280
1974	160	2,040	326	0.82	267
1975	170	1,650	281	0.98	275
1976	160	1,819	291	0.87	253
1977	180	1,880	338	0.98	331
1978	170	2,000	340	1.10	374
1979	220	1,850	407	1.20	488
1980	250	2,000	500	1.31	655
1981	240	2,300	552	1.40	773
1982	300	1,957	587	1.35	792

FRUIT AND VEGETABLE HIGHLIGHTS

CRANBERRIES:

Massachusetts cranberry growers produced a record crop in 1982, totaling 1.278 million barrels. Production surpassed 1981 levels by 9 percent, and 1980's record crop by 8 percent. Excellent growing conditions contributed to the highest yield ever, with growers harvesting 114.1 barrels to the acre.

APPLES:

Good growing conditions also favored the apple producers in 1982. Adequate moisture and cool temperatures produced a medium to large sized fruit with good color. Commercial apple production of 2.4 million 42-pound units surpassed last year's freeze-reduced crop by 20 percent.

Massachusetts apples rank 13th in the Nation for 1982 production. The crop is valued at $17.3 million, 5 percent above a year ago and 19 percent above 1980.

PEACHES:

Favorable growing conditions helped the peach crop rebound from last year's poor season. Production in 1982 totaled 31,250 48-pound units, nearly 8 times larger than the 1981 crop. The state's 1982 peach crop is valued at $675,000, averaging 45 cents per pound.

POTATOES:

Potato production in the Commonwealth totaled 735,000 cwt. in 1982. Although growers harvested 6 percent more acreage in 1982, low yields kept output 1 percent below 1981 production. The crop is valued at $2.9 million, 29 percent lower than the previous year, and the lowest value of production since 1972.

VEGETABLES:

Commercial vegetable growers in the Commonwealth produced 678,000 cwt. of sweet corn and 145,000 cwt. of tomatoes for sale as fresh produce in 1982. Sweet corn production was 9 percent less, and tomato production was 11 percent less than last year. The value of these two commodities was $13.8 million in 1982, 15 percent more than the value last year. Higher prices for both commodities caused the increase in value. A cool, wet June got both crops off to a slow start.

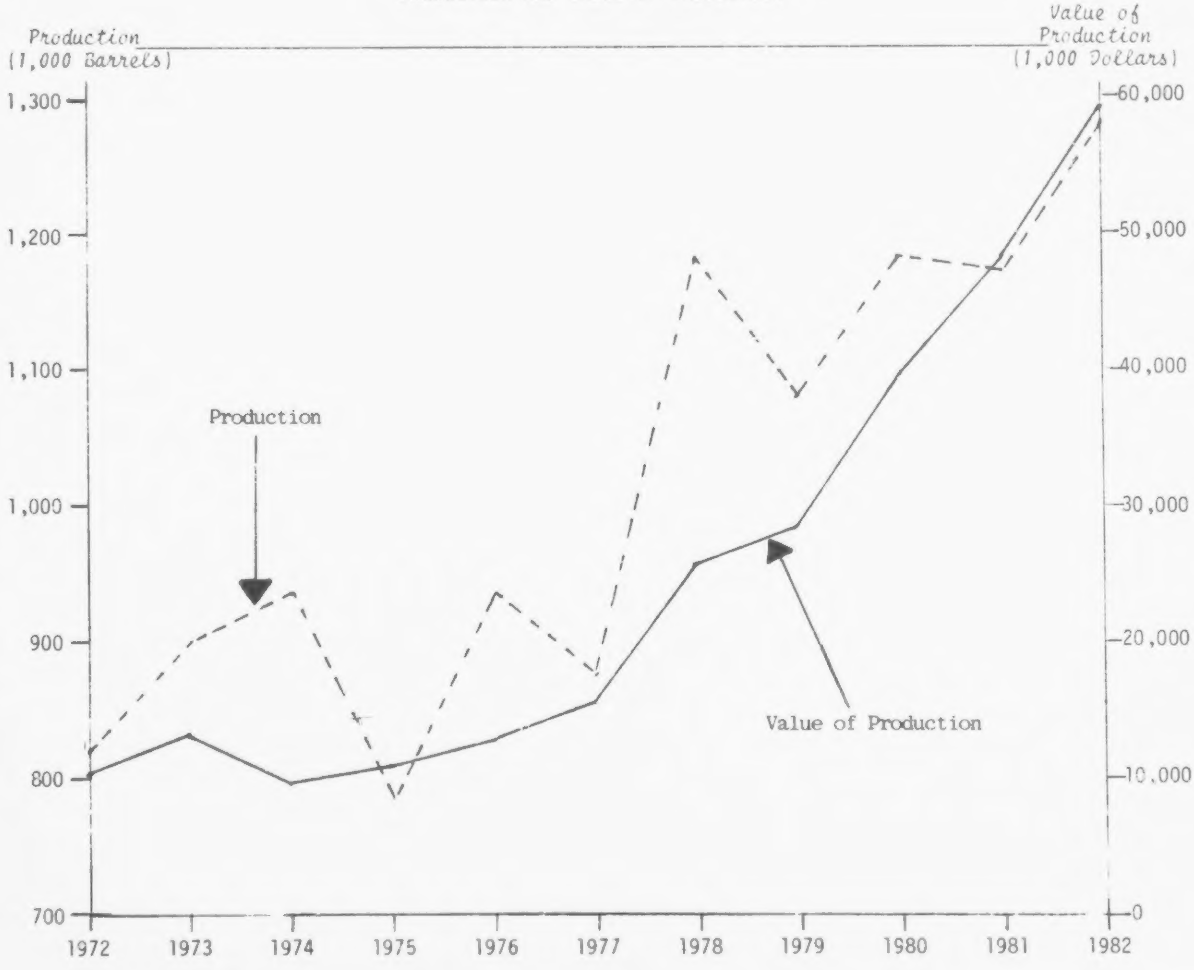
CRANBERRIES: ACREAGE, PRODUCTION, UTILIZATION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION 1/	UTILIZATION			SEASON AVERAGE PRICE PER BARREL 3/	VALUE OF UTILIZED PRODUCTION 4/
				FRESH SALES	PROCESSED	SHRINKAGE 2/		
		Barrels		*1,000 Barrels*			*Dollars*	*1,000 Dollars*
1972	11,200	73.1	819	170	600	49	12.60	10,319
1973	11,200	80.4	901	246	563	92	13.60	12,254
1974	11,200	83.2	932	167	491	274	10.70	9,972
1975	11,200	70.1	785	162	508	115	13.00	10,205
1976	11,200	83.5	935	220	630	85	13.40	12,529
1977	11,200	78.1	875	207	576	92	17.70	15,488
1978	11,200	105.4	1,180	247	833	100	21.60	25,488
1979	11,200	96.4	1,080	130	880	70	26.60	28,728
1980	11,200	105.8	1,185	110	1,016	59	33.50	39,698
1981	11,200	104.6	1,172	205	875	92	41.50	48,639
1982	11,200	114.1	1,278	169	1,070	39	46.10	58,916

1/ Includes cranberries that were put in set aside under the Cranberry Marketing Order.
2/ Berries paid for by processors and lost because of dehydration and berry breakdown after delivery.
3/ Equivalent return at first delivery point, screen basis.
4/ Excludes cranberries that were put in set aside under the Cranberry Marketing Order.

MASSACHUSETTS CRANBERRIES

PRODUCTION AND VALUE OF PRODUCTION



APPLES: PRODUCTION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	TOTAL PRODUCTION 1/	UTILIZED PRODUCTION	PRICE PER UNIT	VALUE OF UTILIZED PRODUCTION
	1,000 42-Pound Units		*Dollars*	*1,000 Dollars*
1972	2,167	2,167	3.90	8,454
1973	1,976	1,975	5.59	11,039
1974	2,548	2,381	4.33	10,300
1975	2,500	2,333	4.37	10,192
1976	2,262	2,262	6.13	13,870
1977	2,262	2,190	5.38	11,776
1978	2,500	2,500	5.80	14,490
1979	2,262	2,262	6.51	14,725
1980	2,381	2,381	6.11	14,550
1981	1,976	1,976	8.35	16,501
1982	2,381	2,381	7.26	17,290

1/ Estimates relate to production in orchards of 100 or more trees.

PEACHES: PRODUCTION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	PRODUCTION	PRICE PER UNIT	VALUE OF PRODUCTION
	1,000 48-Pound Units	*Dollars*	*1,000 Dollars*
1972	35	8.26	289
1973	58	9.66	560
1974	35	8.74	306
1975	42	9.52	400
1976	35	12.63	442
1977	42	10.48	440
1978	38	13.74	522
1979	38	15.16	576
1980	42	14.29	600
1981	4	17.50	70
1982	31	21.77	675

POTATOES: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	SEASON AVERAGE PRICE PER CWT.	VALUE OF PRODUCTION
		Cwt.	*1,000 Cwt.*	*Dollars*	*1,000 Dollars*
1972	4,000	160	640	3.90	2,496
1973	4,000	160	640	4.90	3,136
1974	4,400	200	880	3.50	3,080
1975	3,900	205	800	5.00	4,000
1976	3,500	220	770	5.80	4,466
1977	3,700	240	888	5.40	4,795
1978	3,600	225	810	6.30	5,103
1979	3,400	220	748	5.60	4,189
1980	3,400	220	748	7.50	5,610
1981	3,300	225	743	5.40	4,012
1982	3,500	210	735	3.90 1/	2,867

1/ Preliminary

TOMATOES: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	AVERAGE PRICE PER CWT.	VALUE OF PRODUCTION
		Cwt.	*1,000 Cwt.*	*Dollars*	*1,000 Dollars*
1972	700	190	133	17.70	2,354
1973	730	195	142	17.40	2,471
1974	700	175	123	16.50	2,030
1975	630	210	132	18.00	2,376
1976	590	195	115	21.40	2,461
1977	560	190	106	20.40	2,162
1978	550	210	115	21.80	2,529
1979	510	190	97	24.60	2,386
1980	680	210	143	21.70	3,103
1981	760	215	163	20.10	3,276
1982	660	220	145	30.00	4,350

SWEET CORN: ACREAGE, PRODUCTION AND VALUE, MASSACHUSETTS, 1972-1982

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	AVERAGE PRICE PER CWT.	VALUE OF PRODUCTION
		Cwt.	*1,000 Cwt.*	*Dollars*	*1,000 Dollars*
1972	7,100	75	533	6.93	3,694
1973	8,000	78	624	6.20	3,869
1974	8,200	62	508	8.90	4,521
1975	8,600	81	697	7.10	4,949
1976	8,200	72	590	7.71	4,549
1977	7,800	60	468	8.90	4,165
1978	7,200	88	634	7.00	4,438
1979	7,700	84	647	8.99	5,817
1980	8,200	88	722	9.09	6,563
1981	8,800	85	748	11.70	8,752
1982	7,700	88	678	14.00	9,492

MAPLE SYRUP

Maple syrup production during the spring of 1982 totaled 30,000 gallons, 25 percent below the preceding year. The 1982 sugaring season opened two weeks later and closed four days later than the 1981 season. Most producers reported favorable temperatures and medium color syrup for the season. At $20.20 per gallon, the syrup crop had a value of $606,000, or 19 percent less than the previous year.

MAPLE SYRUP: PRODUCTION, DISPOSITION AND VALUE, MASSACHUSETTS, 1972-1983

YEAR	PRODUCTION	SOLD	SEASON AVERAGE PRICE PER GALLON	VALUE OF PRODUCTION
	1,000 Gallons		*Dollars*	*1,000 Dollars*
1972	28	27	8.70	244
1973	20	19	9.40	188
1974	25	24	11.20	280
1975	31	30	10.70	332
1976	27	25	12.75	319
1977	27	25	13.00	351
1978	28	26	14.10	367
1979	30	28	15.90	477
1980	18	17	18.40	331
1981	40	38	18.70	748
1982	30	28	20.20	606
1983	20		20.00	400

MAPLE SYRUP PRICES: BY TYPE OF SALE AND SIZE OF CONTAINER, MASSACHUSETTS, 1972-1982

YEAR	RETAIL					WHOLESALE					ALL SALES EQUIVALENT PER GALLON
	GAL	½ GAL	QUART	PINT	½ PINT	GAL	½ GAL	QUART	PINT	½ PINT	
						Dollars					
1972	8.10	4.55	2.75	1.90	1.15	7.30	4.30	2.60	1.55	1.00	8.70
1973	9.00	5.00	3.10	2.25	1.25	8.30	4.60	2.85	1.80	1.10	9.40
1974	10.50	5.90	3.55	2.30	1.40	9.00	5.00	3.00	1.85	1.20	11.20
1975	11.10	6.20	3.75	2.50	1.50	10.00	5.45	3.30	2.05	1.15	10.70
1976	11.65	6.45	3.90	2.55	1.50	10.35	5.75	3.35	2.20	1.35	12.75
1977	12.30	6.90	4.05	2.65	1.80	11.20	6.05	3.70	2.40	1.50	14.20
1978	13.10	7.40	4.29	2.81	1.86	11.66	6.59	3.79	2.41	1.49	14.10
1979	14.88	8.37	4.84	3.12	2.13	12.53	7.13	4.09	2.66	1.77	15.90
1980	17.66	9.69	5.88	3.69	2.46	16.25	8.94	4.73	3.07	1.98	18.40
1981	18.69	10.73	6.23	4.07	2.59	16.44	9.39	5.39	3.33	2.01	18.70
1982	19.39	11.31	6.61	4.20	2.68	16.38	9.87	5.41	3.46	2.13	20.20

MINK

Mink pelt production continues on a downward trend with a total of 13,100 pelts produced in 1982. The biggest drop in production was in the pastels which dropped from 6,300 pelts in 1980 to only 1,900 in 1982. Pastels had consisted of 36 percent of the total and now only accounts for 14 percent. The other percentage breakdown of the 1982 production was demi-buff 31 percent, pearl 21 percent and standard 13 percent. The breeding of mink females to produce kits in 1983 continues the downward trend of recent years with only 3,700 females bred, compared with 3,900 in 1981 and 5,200 for 1980.

MINK: PRODUCTION AND FEMALES BRED TO PRODUCE KITS, MASSACHUSETTS, 1978-1983

COLOR CLASS	PELTS PRODUCED					FEMALES BRED TO PRODUCE KITS				
	1978	1979	1980	1981	1982	1979	1980	1981	1982	1983
Standard	1,500	1,600	1,200		1,700	1/	1,500	660		500
Demi-Buff	5,400	4,900	5,200		4,000	2,600	1,500	1,000		1,200
Pastel	6,500	5,400	6,300		1,900	800	730	1,000		360
Pearl	1/	2,500	2,300		2,800	690	700	700		880
Others	6,600	3,600	2,400		2,700	1,310	970	540		760
TOTAL	20,000	18,000	17,400	2/	13,100	5,400	5,200	3,900	2/	3,700

1/ Included in others to avoid disclosing individual operations.
2/ Estimates not available.

COMMERCIAL FERTILIZER: CONSUMPTION BY KIND AND PLANT NUTRIENTS, MASSACHUSETTS, 1970-1982

YEAR	KIND OF FERTILIZER				PRIMARY NUTRIENTS		
	MIXED FERTILIZER	PRIMARY NUTRIENT MATERIALS	SECONDARY AND MICRO-NUTRIENTS	TOTAL FERTILIZER	N	AVAILABLE P_2O_5	K_2O
				Tons			
1970	52,953	16,580	63	69,596	8,159	6,325	6,071
1975	51,814	15,216	36	67,066	7,866	5,588	6,049
1976	55,548	15,335	150	71,033	8,803	5,984	6,779
1977	53,094	14,882	28	68,004	9,015	5,872	6,607
1978	71,471	14,970	62	86,503	11,501	7,644	8,552
1979	58,397	11,393	224	70,014	10,275	6,220	7,530
1980	50,417	15,207	117	65,741	9,081	5,444	6,375
1981	59,793	10,864	466	71,123	9,352	7,457	6,893
1982	39,210	14,830	684	54,724	7,701	4,321	5,822

PRICES PAID BY FARMERS: INDEX NUMBERS, ANNUAL AVERAGE, UNITED STATES, 1972-1982, BY YEARS (1977=100)

YEAR	COMMODITIES & SERVICES, INTEREST TAXES AND WAGE RATES	PRODUCTION ITEMS INTEREST, TAXES & WAGE RATES	PRODUCTION ITEMS	INTEREST PAYABLE PER ACRE	TAXES PAYABLE PER ACRE	WAGE RATES FOR HIRED FARM LABOR 1/
1972	62	60	61	47	75	63
1973	71	72	73	55	77	69
1974	81	81	83	65	81	79
1975	89	89	91	77	87	85
1976	95	95	97	88	94	93
1977	100	100	100	100	100	100
1978	108	109	108	117	100	107
1979	123	125	125	143	107	117
1980	138	139	138	174	115	126
1981	150	151	148	211	123	137
1982	156	154	149	233	131	141

1/ Simple average of quarterly indexes seasonally adjusted.

INDEX NUMBERS OF PRICES RECEIVED BY FARMERS, BY COMMODITY GROUPS, UNITED STATES ANNUAL AVERAGE, 1972-1982 (1977=100)

YEAR	CROPS								LIVESTOCK & PRODUCTS				ALL FARM PROD-UCTS
	FOOD GRAINS	FEED GRAINS AND HAY	TOBACCO	COTTON	OIL BEARING CROPS	FRUIT	COM-MERCIAL VEGE-TABLES	ALL CROPS	DAIRY PROD-UCTS	POULTRY AND EGGS	MEAT ANI-MALS	ALL LIVE-STOCK	
1972	70	57	70	48	51	72	65	60	63	60	88	77	69
1973	138	90	74	54	93	84	76	91	74	101	118	104	98
1974	192	134	85	85	96	86	81	117	86	94	98	94	105
1975	155	127	93	68	81	85	92	105	90	103	100	98	101
1976	129	120	93	99	85	80	91	102	100	102	101	101	102
1977	100	100	100	100	100	100	100	100	100	100	100	100	100
1978	122	101	109	91	93	137	105	105	109	106	134	124	115
1979	147	114	118	96	103	144	110	116	124	111	166	147	132
1980	165	132	125	114	102	124	113	125	135	112	156	144	134
1981	166	141	140	111	110	130	136	134	142	116	150	143	139
1982	146	120	153	91	88	175	127	121	140	110	155	145	133

FARM PRODUCTION EXPENDITURES, NORTHEAST 1/ AND UNITED STATES, 1981

EXPENDITURE 2/	NORTHEAST		UNITED STATES	
	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/
	Dollars	*1,000 Dollars*	*Dollars*	*1,000 Dollars*
TOTAL FARM PRODUCTION EXPENDITURES	48,597	8,340,222	56,959	138,473,913
LIVESTOCK & POULTRY:	3,998	686,065	6,355	15,449,306
Cattle Purchased	2,610	447,955	5,068	12,320,530
Hogs & Pigs Purchased	192	32,898	607	1,476,670
Sheep & Lambs Purchased	4	668	77	188,283
Poultry Purchased	526	90,353	246	598,881
Other Livestock & Poultry Purchased	240	41,158	173	419,898
Other 5/	426	73,032	183	445,045
FARM SERVICES:	5,209	893,903	8,691	21,129,125
Custom Hire	434	74,556	856	2,080,490
Veterinarian, Medicine & Supplies	425	72,895	319	775,938
Hired Transportation for Delivery to Farm	47	8,040	89	215,785
Insurance	1,078	185,001	941	2,288,684
Marketing Expenses (Crop & Livestock)	1,503	257,881	1,144	2,781,127
Miscellaneous Farm Business	587	100,756	754	1,834,136
Rent	1,135	194,773	4,588	11,152,964
Cash Rent	991	170,108	1,849	4,494,700
Share Rent	144	24,665	2,739	6,658,264
FEED:	9,216	1,581,602	7,821	19,014,370
Grains	1,658	284,500	2,273	5,525,583
Hays & Forages	496	85,146	883	2,145,889
Mixed or Formula Feeds	6,819	1,170,234	4,174	10,147,806
Other Feeds, Additives and Ingredients	236	40,478	333	810,138
Pasture & Grazing Livestock	7	1,244	158	384,954
WAGES & CONTRACT LABOR:	5,015	860,717	4,338	10,547,315
Cash Wages	4,076	699,496	3,387	8,233,662
Contract Labor	156	26,688	310	754,124
Total Perquisites Furnished	784	134,534	641	1,559,528
INTEREST:	3,459	593,554	5,388	13,099,238
Farm Real Estate	2,077	356,386	2,693	6,547,819
Operating Loans 6/	1,382	237,168	2,695	6,551,419
Landlord Farm Real Estate	51	8,785	185	449,843
FERTILIZER, LIME & SOIL CONDITIONERS: 7/	3,041	521,833	4,143	10,071,621
Custom Applied Fertilizer	694	119,020	1,457	3,541,269
Not Custom Applied Fertilizer	1,943	333,492	2,197	5,341,705
Lime & Soil Conditioners	363	62,330	192	466,723
FUELS & ENERGY:	3,390	581,842	4,481	10,892,752
Gasoline - Delivered Bulk to Farm	916	157,176	1,150	2,795,068
Gasoline - Purchased at Service Station	256	44,001	377	915,530
Diesel Fuel	909	156,046	1,437	3,494,388
Fuel Oil & Kerosene	142	24,382	40	98,417
L.P. Gas	130	22,258	295	717,544
Natural Gas	39	6,673	120	291,905
Motor Oil, Grease & Special Fluids	127	21,711	178	432,819
Electricity (Excluding Irrigation)	844	144,811	568	1,380,409
Electricity for Irrigation	14	2,334	311	756,844
FARM & MOTOR SUPPLIES:	3,355	575,755	3,121	7,587,884
Motor Vehicle Operating Costs Other Than Fuels	1,738	298,301	2,150	5,229,275
Miscellaneous Farm Supplies	982	168,522	721	1,752,295
Marketing Containers	635	108,932	249	606,314

See Footnotes, page 27

FARM PRODUCTION EXPENDITURES, NORTHEAST 1/ AND UNITED STATES, 1981

EXPENDITURE 2/	NORTHEAST		UNITED STATES	
	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/
	Dollars	*1,000 Dollars*	*Dollars*	*1,000 Dollars*
BUILDING, FENCING & FARM IMPROVEMENTS: 8/	2,630	451,337	2,806	6,822,015
New Building Construction & Remodeling	1,497	256,987	1,207	2,933,744
Building Maintenance & Repair	521	89,419	258	627,450
Fencing Expenses	104	17,764	187	454,468
Maintenance & Repairs (Other)	156	27,183	303	737,775
New Construction Improvements (Other)	334	57,394	836	2,033,613
TRACTORS & SELF-PROPELLED MACHINERY:	1,847	316,918	2,607	6,337,603
Tractors	1,442	247,483	1,696	4,122,504
Tractors, New	747	128,201	1,006	2,445,512
Tractors, Used	695	119,283	690	1,676,992
Self-Propelled Machinery	366	62,872	836	2,033,151
Leasing or Rental, Tractors	24	4,189	57	139,091
Leasing or Rental, Self-Propelled	14	2,373	18	42,856
OTHER FARM MACHINERY, IMPLEMENTS & LIVESTK EQUIPMNT:	2,682	460,278	1,938	4,712,608
Farm Machinery, Not Self-Propelled	1,908	327,520	1,494	3,632,456
Dairy, Poultry & Other Livestock Equipment	531	91,110	236	573,990
Repair & Maintenance Livestock Equipment	171	29,298	138	335,135
Leasing or Rental Other Farm Machinery & Equipmnt	72	12,349	70	171,028
SEEDS & PLANTS:	1,537	263,739	1,667	4,053,311
Seed for Field Crops & Small Grains	739	126,447	1,192	2,897,422
TAXES:	1,332	226,525	1,099	2,671,560
Farm Real Estate	1,149	197,195	897	2,180,179
Other Property Tax 6/	183	31,330	202	491,382
Landlord Farm Real Estate	379	65,064	553	1,343,593
AUTOS, TRUCKS & OTHER VEHICLES: 9/	685	117,612	1,006	2,446,503
Autos	102	17,584	177	431,281
Trucks	510	87,448	680	1,653,643
Trucks, New	318	54,533	392	952,490
Trucks, Used	192	32,914	288	701,153
AGRICULTURAL CHEMICALS: 7/ 10/	1,191	204,368	1,490	3,622,160
Pesticides for Crops & Crop Storage	1,130	193,883	1,350	3,283,256
Pesticides for Livestock, Poultry & Buildings	44	7,529	52	126,824
UNALLOCATED OTHER EXPENSES:	13	2,175	7	16,540

1/ Includes eleven states: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont.
2/ Farm share.
3/ Total expenditure divided by number of farms.
4/ Totals may not add, due to rounding.
5/ Excludes veterinarian fees, medicine and breeding fees.
6/ Includes landlord expenditures.
7/ Landlord expenditure included only in total.
8/ "All Other Improvements" included in total only.
9/ "Other Vehicles" included in total only.
10/ Includes seed treatments.

FARM BALANCE SHEET (Excluding Farm Households), MASSACHUSETTS, JANUARY 1, 1978-1982

ITEM	1978	1979	1980	1981	1982
			Million Dollars		
Assets:					
Real Estate 1/	725.4	831.6	896.0	921.2	930.9
Livestock & Poultry 2/	49.0	65.3	78.8	90.0	85.7
Machinery & Motor Vehicles 3/	121.8	135.6	149.3	150.8	158.1
Crops 4/	17.8	26.2	22.8	25.2	24.5
Financial Assets	49.1	59.6	60.3	56.2	65.9
TOTAL FARM ASSETS	963.1	1,118.2	1,207.2	1,243.5	1,265.1
Claims:					
Real Estate Debt 5/	62.9	64.1	76.3	86.6	96.6
Non-Real Estate Debt 6/	56.6	104.4	128.6	129.2	147.1
TOTAL FARM DEBT	119.5	168.5	204.9	215.8	243.7
Equity	843.6	949.7	1,002.3	1,027.7	1,021.4

1/ Excludes value of operator dwellings.
2/ Excludes horses, mules, and broilers.
3/ Includes only farm share value for trucks and autos.
4/ All crops held on farms including crops under CCC and crops held off farms by farm operators.
5/ Excludes debt on operator dwellings.
6/ Excludes debt for non-farm purposes.

FARM PRODUCTION EXPENSES, MASSACHUSETTS, 1977-1981

CURRENT FARM OPERATING EXPENSES	1977	1978	1979	1980	1981
			Million Dollars		
Feed	42.5	39.7	44.0	47.0	48.9
Livestock	3.2	2.9	1.4	1.5	1.7
Seed	6.7	7.8	8.8	10.0	11.8
Fertilizer & Lime	5.8	8.3	7.7	8.8	9.4
Repairs & Operation of Capital Items	25.3	27.6	34.1	39.6	42.6
Hired Labor	46.8	50.5	58.1	65.3	67.8
Miscellaneous	25.7	35.8	44.5	47.5	57.7
TOTAL CURRENT FARM OPERATING EXPENSES	156.0	172.7	198.5	219.5	239.8
Depreciation & Other Consumption of Farm Capital	30.2	36.3	40.5	44.4	46.4
Taxes on Farm Property	15.4	14.2	27.8	29.6	29.2
Interest on Farm Mortgage Debt	6.0	5.5	6.2	7.3	8.5
Net Rent to Non-Operator Landlord	-.4	-.3	-.2	--	.3
TOTAL PRODUCTION	207.2	228.3	272.7	300.8	324.2

GROSS INCOME AND NET INCOME FROM FARMING, MASSACHUSETTS, 1950-1981

ITEM	1950	1960	1970	1977	1978	1979	1980	1981
					Million Dollars			
Gross Farm Income:								
Cash Receipts from Farm Marketing	181.6	164.7	157.0	226.5	278.8	287.4	296.9	332.8
Government Payment	.6	.7	.6	.6	.8	.6	.7	.8
Non-Money Income	19.3	15.5	13.7	25.2	27.2	30.0	32.3	32.5
Other Farm Income	.1	.7	1.5	2.3	2.2	2.7	2.7	3.3
TOTAL	201.6	181.6	172.8	254.5	308.9	320.7	332.7	369.4
Farm Production Expenses	147.2	135.6	130.8	220.3	228.3	272.7	300.8	324.2
Net Farm Income Before Inventory Adjustment	54.4	46.1	41.9	34.2	80.6	48.1	31.8	45.2
Net Change in Farm Inventory	-2.1	1.3	.2	-1.1	.1	2.8	3.0	-8.4
Net Farm Income After Inventory Adjustment	52.3	47.3	42.1	33.1	80.8	50.9	34.9	36.8

CROP AND LIVESTOCK PRODUCTION: RANK AMONG STATES, MASSACHUSETTS AND NEW ENGLAND, 1982

ITEM	UNIT	MASSACHUSETTS PRODUCTION	MASSACHUSETTS RANK	MASSACHUSETTS % US TOTAL	NEW ENGLAND PRODUCTION	NEW ENGLAND RANK	NEW ENGLAND % US TOTAL
		1,000			*1,000*		
CROPS:							
Cranberries	*barrels*	1,278	1	43.7	1,278	1	43.7
Apples	*42-pounds*	2,381	13	1.2	8,476	7	4.3
Peaches	*48-pounds*	31	27	.1	NA		
Corn for Silage	*tons*	663	31	.6	4,104	11	3.6
Hay	*tons*	293	44	.2	2,109	27	1.4
Potatoes	*cwt.*	770	30	.2	28,542	3	8.2
Tobacco	*pounds*	838	16	*	4,678	14	.2
Sweet Corn	*cwt.*	678	8	2.2	NA		
Tomatoes	*cwt.*	145	18	.6	NA		
LIVESTOCK AND POULTRY:							
Eggs	*each*	314,000	35	.5	3,101,000	7	4.4
Milk	*pounds*	595,000	38	.4	4,739,000	7	3.5
Wool	*pounds*	50	37	.1	309	30	.3
Sheep	*head*	2.5	34	.1	11	29	.5
Lambs	*head*	3.3	37	*	23	30	.3
Cattle	*head*	17	46	*	172	38	.4
Calves	*head*	23	44	.2	173	22	1.6
Hogs and Pigs	*head*	61	40	.1	124	35	.1

FARMS: NUMBER AND LAND, MASSACHUSETTS AND NEW ENGLAND, 1972-1983 1/

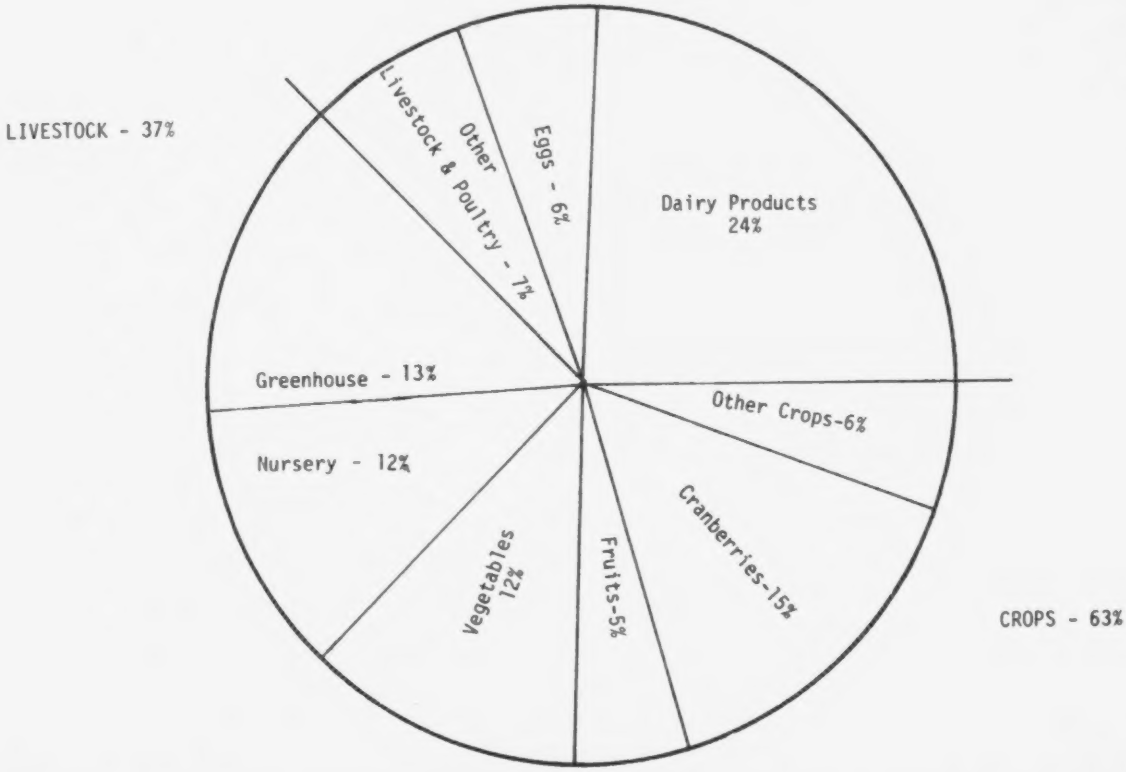
YEAR	MASSACHUSETTS NUMBER OF FARMS	MASSACHUSETTS AVERAGE SIZE	MASSACHUSETTS LAND IN FARMS	NEW ENGLAND NUMBER OF FARMS	NEW ENGLAND AVERAGE SIZE	NEW ENGLAND LAND IN FARMS
	Number	*Acres*	*1,000 Acres*	*Number*	*Acres*	*1,000 Acres*
1972	5,700	123	700	28,760	192	5,510
1973	5,500	124	680	28,040	192	5,378
1974	5,500	124	680	27,740	192	5,318
1975	5,800	121	700	26,120	197	5,135
1976	6,300	111	700	27,960	185	5,165
1977	6,200	111	690	28,300	182	5,155
1978	5,900	115	680	28,700	180	5,165
1979	6,200	110	680	29,900	172	5,145
1980	5,900	115	680	30,360	169	5,145
1981	5,600	118	660	30,420	170	5,185
1982	5,300	119	630	28,950	173	5,000
1983 2/	5,300	113	600	29,400	169	4,980

1/ A farm is a place that sells or normally would sell $1,000 of agricultural products; 2/Preliminary.

CASH RECEIPTS FROM FARM MARKETINGS, MASSACHUSETTS, 1980-1982

COMMODITY	1980	1981	1982
		1,000 Dollars	
CROPS:			
Hay	2,346	2,498	2,941
Tobacco	10,833	14,248	14,953
Potatoes	4,338	4,420	3,832
Tomatoes	3,103	3,276	4,350
Sweet Corn	6,563	8,752	9,492
Miscellaneous Vegetables	18,511	22,886	25,660
Apples	12,750	12,856	15,344
Peaches	570	35	630
Cranberries	39,698	48,638	53,951
Berries	1,365	1,404	2,065
Miscellaneous Fruits	260	283	285
Maple Products	313	728	536
Forest Products	1,715	1,656	1,672
Greenhouse and Nursery	91,372	90,556	92,000
Miscellaneous Crops	248	143	126
TOTAL CROPS	193,985	212,379	227,837
LIVESTOCK AND LIVESTOCK PRODUCTS:			
Cattle and Calves	13,017	12,694	8,237
Hogs	5,988	5,515	7,765
Sheep and Lambs	179	159	214
Dairy Products	79,726	85,989	87,870
Chickens	525	817	387
Eggs	20,177	22,933	21,910
Turkeys	1,927	2,345	2,379
Miscellaneous Poultry	2,308	2,875	2,831
Miscellaneous Livestock	3,151	3,118	3,333
TOTAL LIVESTOCK	126,998	136,445	134,926
TOTAL CASH RECEIPTS	320,983	348,824	362,763

MASSACHUSETTS CASH RECEIPTS - 1982



UNITED STATES: CIVILIAN PER CAPITA CONSUMPTION OF MAJOR FOOD COMMODITIES, 1974-1981 1/

COMMODITY	1974	1975	1976	1977	1978	1979	1980	1981 2/
					Pounds			
Meats:	151.2	143.7	152.8	152.2	146.9	144.9	147.6	144.5
Beef	85.6	87.9	94.4	91.8	87.2	78.0	76.5	77.2
Veal	1.9	3.4	3.3	3.2	2.4	1.7	1.5	1.6
Lam & Mutton	2.0	1.8	1.6	1.5	1.4	1.3	1.4	1.4
Pork	61.8	50.7	53.7	55.8	55.9	63.8	68.3	65.0
Fish (edible weight):	12.1	12.2	12.9	12.7	13.4	13.0	12.8	13.0
Canned	4.7	4.3	4.2	4.6	5.0	4.8	4.5	4.8
Poultry Products:								
Eggs	36.1	35.2	34.2	33.9	34.5	35.2	34.6	33.6
Chicken (ready-to-cook)	40.7	40.1	42.7	44.1	46.7	50.6	50.1	51.7
Turkey (ready-to-cook)	8.8	8.5	9.1	9.1	9.2	9.9	10.5	10.7
Dairy Products:								
Cheese (excluding cottage)	14.6	14.3	15.7	16.1	17.0	17.2	17.6	18.2
Condensed & evaporated whole milk	5.6	5.3	5.0	4.3	4.2	4.1	3.8	4.1
Fluid milk & cream(product weight)	262.3	266.8	263.6	259.9	257.2	253.2	249.7	245.7
Ice Cream (product weight)	17.4	18.5	17.9	17.5	17.4	17.1	17.3	17.2
Fats & Oils - Total fat content	52.4	52.3	54.8	53.0	54.6	55.8	55.8	56.9
Butter (actual weight)	4.5	4.7	4.3	4.3	4.4	4.5	4.5	4.3
Margarine (actual weight)	11.1	11.0	11.9	11.4	11.2	11.2	11.3	11.2
Lard	3.2	2.8	2.6	2.2	2.2	2.4	2.4	2.5
Shortening	16.9	17.0	17.7	17.2	17.8	18.4	18.2	18.5
Other edible fats & oils	19.8	19.9	21.5	21.0	22.1	22.4	22.7	23.5
Fruits:								
Fresh	76.4	80.8	82.8	79.5	79.0	80.8	85.7	87.3
Citrus	26.6	28.4	28.1	25.5	25.7	23.8	28.1	24.6
Noncitrus	49.8	52.4	54.7	54.0	53.2	57.0	57.6	62.7
Processed:								
Canned fruit	19.3	19.0	18.6	19.0	17.9	17.8	17.4	16.4
Canned juice	13.0	14.6	14.5	13.6	16.5	16.9	16.7	19.1
Frozen (including juices)	12.0	14.0	13.6	14.0	12.5	12.6	13.0	12.7
Chilled citrus juices	5.2	5.6	6.1	5.7	6.0	5.4	5.8	4.2
Dried	2.4	2.9	2.6	2.5	2.1	2.6	2.4	2.4
Vegetables:								
Fresh 3/	91.6	90.3	91.3	93.6	95.4	96.4	99.0	97.1
Canned (excluding potatoes)	52.9	51.9	53.0	53.1	51.8	53.2	49.8	45.9
Frozen (excluding potatoes)	10.1	9.6	10.1	10.2	10.7	11.2	10.4	11.3
Fresh potatoes	45.5	51.6	48.5	51.5	49.4	56.6	53.6	47.1
Frozen potato products	13.1	13.7	14.6	15.7	17.2	17.7	16.9	18.2
Sweetpotatoes 4/	4.7	4.8	4.8	4.3	4.5	4.6	3.9	4.1
Grains:								
Wheat flour 5/	111	114	119	116	115	117	117	117
Rice	7.5	7.6	7.1	7.5	5.7	9.4	9.4	11.0
Other:								
Coffee	9.6	9.2	9.4	6.9	7.9	8.5	7.8	7.7
Cocoa	3.0	2.6	3.0	2.6	2.6	2.6	2.6	2.9
Peanuts (shelled)	6.4	6.5	6.2	6.3	6.8	6.8	5.5	6.1
Dry edible beans	5.0	6.6	6.2	6.2	4.8	4.4	4.3	4.1
Melons	17.0	17.2	18.3	19.1	19.8	18.9	16.9	19.0
Sugar (refined)	95.6	89.1	93.4	94.2	91.4	89.3	83.7	79.4
Corn sweeteners 6/	25.6	28.8	31.9	35.3	39.2	43.3	48.9	55.0

1/ Quantity in pounds, retail weight, unless otherwise shown. Data on calendar year basis except for dried fruits, fresh citrus fruits, peanuts, dry beans and rice which are on a crop-year basis, and eggs which are on a marketing-year basis. 2/ Preliminary. 3/ Commercial production for sale as fresh produce. 4/ Table stock and processed. 5/ White, whole wheat, semolina, and durum flour. 6/ Fructose and glucose.

ANNUAL REPORT

MASSACHUSETTS DEPARTMENT

OF

FOOD AND AGRICULTURE

FISCAL YEAR 1983

JULY 1, 1982

TO

JUNE 30, 1983

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The protection of agricultural land and the delivery of programs aimed at enhancing urban agriculture were the main efforts of the Bureau of Land Use in 1983. Through several programs created to encourage the preservation and utilization of farmland for agriculture, the Bureau strives to strengthen the local farm industry and improve the climate for a viable agricultural community.

Outlined below are presentations of the most important activities of the Bureau of Land Use.

AGRICULTURAL PRESERVATION RESTRICTION PROGRAM

The Agricultural Preservation Restriction (APR) Program was established by the legislature in December, 1977, to protect the Commonwealth's rapidly diminishing farmland resources through the purchase of Agricultural Preservation Restrictions, commonly known as development rights. It is a voluntary program whereby farmland owners apply to the Department of Food and Agriculture to sell a restriction on all or a portion of their property. After field inspections, a screening and selection process, appraisals, and approval by the Agricultural Lands Preservation Committee, the Commonwealth acquires these restrictions, which run in perpetuity, and prohibit all non-agricultural uses. Title to the land still rests with the landowner who enjoys all the traditional rights of property ownership, except the right to develop the land for non-agricultural purposes.

Since the program's inception, more than 8518 acres have been protected statewide. There are also more than 8684 acres currently under appraisal. During the past five years the legislature has appropriated five million dollars each of the first four and twenty million dollars in 1982 for a total of $40 million to fund the program. The Massachusetts program is now the largest, most active statewide purchase of development rights programs in the country and is being used as a model by other states considering similar farmland protection techniques.

APR Program Objectives

Together with the Farmland Assessment Act (Chapter 61A M.G.L.), the APR Program is the cornerstone of the state's agriculture land protection policy. The main objective of the Agricultural Preservation Restriction Program is to limit the continued conversion of productive land through deed restriction and revitalize the agricultural industry by making land more accessible to farmers and their operations more financially secure. The specific goals of the Program include the following:

To retain the best and most productive agricultural land remaining in the Commonwealth;

To provide an opportunity for farmers to purchase farmland at affordable prices;

To help farmland owners overcome estate planning problems;

To provide working capital to enable farm operations to become more financially stable;

To address other personal ownership problems such as age, health, and retirement and;

To develop a positive attitude among farmers, agribusinessmen, landowners and urbanites that agriculture in Massachusetts is here to stay and that state government recognizes and supports agriculture's important contributions to the state's economy and rural character.

The Agricultural Preservation Restriction Program is the only means for farmland owners to realize the cash equity in their land and at the same time ensure it will remain open and undeveloped. The value of the Agricultural Preservation Restriction (or development rights) is the difference between the full market value of the land and the land's agricultural value. In return for paying for the APR, the Commonwealth receives a deed restriction, in perpetuity, prohibiting any and all activities detrimental to the land's present or future agricultural potential. This cash payment is an investment in the state's agricultural land resource, which will be repaid time and again through the operation of a viable agricultural economy.

The Selection & Decision-making Process

Decisions on properties selected by the APR Program are made by a nine member Agricultural Land Preservation Committee including officials from the state, federal and private sectors, two of whom must be farmers. The program is administered by a staff of two who are responsible for field work, evaluation of application, making appraisal assignments and guiding the application through the bureaucratic process.

Four major criteria established under the enabling legislation guide the staff and Committee in decision making. In order of significance they are: 1. quality of the soils for agricultural production; 2. degree of threat of development; 3. significance of the farm to the State's agriculture; 4. environmental and community planning objectives.

The APR program is very competitive, with more applications on hand than current funding permits. Therefore, emphasis is on protecting the farms that are in the most immediate jeopardy of passing out of farm ownership, most often into residential development.

Assessing the degree of threat facing a farm's conversion to non-agricultural uses is a task requiring careful judgement. The degree of threat has two aspects: 1. personal circumstances surrounding ownership, such as financial stress, age and health of owner, family problems and so on; and 2. physical characteristics of the land in terms of development potential, such as amount of road frontage, suitability of soils to support on-site sewage disposal systems, availability of water, sewer and utilities, building demand for the area, and local attitudes towards development.

One or more interviews with the owner are essential in order to determine the personal circumstances surrounding the owner's decision to submit an agricultural preservation application. In many cases, the prospect of retirement and the necessity of "cashing in" on the land is often the most important reason for submitting an application. Estate settlement and the division of assets among heirs can be another motivating factor. Financial problems such as fire, or dairy cow brucellosis and crop failure can also place a farm in jeopardy.

Sometimes the personal and financial problems of the owner may not be so immediate, but the land may be valuable from a development standpoint and the temptation to sell too hard to resist. Many farmers have sold house lots or parcels of land to pay back taxes, or put children through college, even thugh they hated to do so. In many cases, the whole character of the neighborhood has changed, and the local attitudes are so pro-development that an individual may decide to sell and move to another area.

The third major criterion, the significance of the farm to the state's agriculture, is another way of saying "how significant is the agricultural resource of this property and how does it relate to other farms in the area." The parcel's economic viability for agriculture is related to this criterion as well.

Since agriculture is scattered throughout the state, the Massachusetts APR Program is statewide in nature. No particular region of the state has been targeted for farmland preservation. Each parcel of land before the Agricultural Lands Preservation Committee must bear some relationship to the farming activities in the area, however, and only after careful consideration is the Committee interested in protecting an isolated farm. The farm must be large enough to stand on its own as an economically viable unit, and it must be significant in terms of its production and an asset to the local community or region. The Program administrators are concerned about the prospect of protecting an individual property, only to have it fail agriculturally and become an island of restricted land beyond the mainstream of the agricultural economy.

Accordingly, we are attempting to create blocks of protected farmland by adding other land near farms already protected so that the overall viability of the farming area is maintained. The protected land can be in different ownership, but it must contribute to the integrity of the farming area.

Parcel size is not necessarily a critical factor. For example, we have protected a seven acre field. But this field was a natural add-on to a large dairy farm which came to depend upon the field's production. If developed into houselots, the field would have detracted from a larger farm and degraded the quality of the area for farming. Protecting that small field had significance far greater than its size alone.

There are many collateral benefits of protecting a farm beyond its agricultural production capabilities. The most important of these in Massachusetts are scenic open space and watershed protection. In many cases communities identify with these benefits more readily, and they can be very important locally. It is rare for a large farm in this state not to have important environmental attributes, which have long been identified by the community in their open space or growth policy plans.

A portion of the application is completed by the municipality where the land is located. Comments by the various boards on how the preservation of the farm fits into the community's open space, zoning and planning objectives are important to the Committee in its deliberation. In almost every instance, municipal comments are favorable towards preservation of the subject property and other important agricultural land in the community as well.

At monthly ALPC Committee meetings the staff presents information on soils, acreage, jeopardy, significance of the farm and municipal comments. Following a complete evaluation and discussion of the property, specific action is taken. The entire process is an open one and applicants and members of the public are welcome to attend.

On farms with good soils that are financially and agriculturally viable and are in jeopardy the decision-making process is generally a straightforward one; however, often there are farms requiring considerable study and evaluation before a decision can be rendered.

In cases where the Committee and staff are uncertain of the proper course of action, a "field team" of representatives from the APR staff, the USDA Soil Conservation Service and Extension Service visit the farm and make a second evaluation of the property utilizing APR criteria. On several occasions during the past year the team's findings have been instrumental in helping the Committee resolve difficult evaluation of specific properties.

The Appraisal Process

Following the selection process, those farms the Committee wants to protect are nominated for appraisal. All appraisals are handled by independent, professional appraisers who are contracted to do the work by the APR staff.

As mentioned earlier in this report, the value of the Agricultural Preservation Restriction (development rights) is the difference between the land's full market value and its agricultural value. The appraisal process is completed in three steps: 1. determination of market value, 2. determination of agricultural value, and 3. independent review of the market and agricultural value.

The appraisal process is the most important component of the APR Program, because it is the value of the development rights that so often determines the success (or failure) of the individual project. Accordingly, it is of the highest priority that the appraisals are well thought out and accurate. The objective of the Program is to pay a fair price for the restriction, but at the same time ensure that the taxpayers' dollars are spent prudently and not wasted on land that may not have development potential. In many cases percolation tests are done to confirm whether the land can legally be developed under the State's Environmental Code, and market demand for residential, industrial or commercial use must be demonstrated in order to justify the full value of the property.

The agricultural value is determined by utilizing the income capitalization approach based on the type of farming enterprise most likely to occur on the property. Comparable sales of restricted land are also employed. The APR Program's agricultural appraisers have recently undertaken a research project aimed at improving the data base and methodology of the agricultural appraisal process.

Once the market value and agricultural value and reports are completed, they are reviewed by another independent professional appraiser to uncover any potential errors or oversights. The review appraiser visits the farm and inspects the comparable sales. When the review appraiser's summary report is completed, it is forwarded to the property owner with a cover letter explaining the results. The landowner then critiques the report and raises any questions about the appraisal. If questions arise that the program administrator cannot answer, the review appraiser is asked to meet with the property owner and staff to discuss the appraisal.

If the landowner is still in disagreement as to the value, they may engage their own appraiser. If their position cannot be supported by market information, the Department of Food and Agriculture's review appraiser has the final say. The program is always receptive to landowner's remarks about the appraisaL of their farmland. If agreement cannot be reached at one point in time, the project will be reconsidered when the land market reflects a positive change for the landowner. The Program staff tries to be successful with every project nominated for appraisal.

Status of APR Program

In May 1980, the Commonwealth's first agricultural preservation restriction was recorded. The recording of the first restriction meant that the total selection and acquisition process worked and that all state agencies and procedures necessary to complete such acquisitions had been identified and met. The so-called selection/acquisition pipeline had been defined and was fully operational (Table 1). The average time period for completing an acquisition is 12 months.

A summary of agricultural restriction acquisitions by fiscal year is in Table 3. Over the four year period, a total of 77 properties with 6,753 acres have been restricted. In addition, 16 properties totalling 1755 acres are under purchase agreement. The total acquisition cost was $12,137,700. or $1863. per acre. Municipalities and private groups contributed 5 percent of the acquisition monies. The statute enables municipalities to be co-holders of the deed restriction with the Department of Food and Agriculture if they provide assistance that is acceptable to the Agricultural Lands Preservation Committee. Contributions are particularly encouraged in cities and towns where land values are high and where farmland possesses only local importance.

Applications for the program have been received by the Department since January, 1979. Since that time 362 applications have been received. They are located in 12 counties and 146 municipalities. A total of 35,810 acres of land are under application and the owners' asking prices exceed $63 million (Table 1). New applications are continually being received.

The general status of all applications received as of June 30, 1983 is categorized in Table 1. One of six status categories is available. Status A are those applications that have received payment and the property has been restricted. Payment is pending for Status B applications until a title search has been completed and cooperating state agencies provide their approval. Applications in categories C and D are under appraisal. If agreement as to value is obtained, then they will proceed to Status B if the Agricultural Lands Preservation Committee approves. As soon as additional funding is received by the program, applications in group E will be nominated for appraisal. Status F applications have been rejected for not meeting minimum program criteria and long run program objectives. Without significant changes, the application would not be reconsidered. Applications in category F are low priority compared to groups A-E; however, over time the application could be selected if land improvements were made or if significant financial contribution was made by local government.

A summary of program expenditures is presented in Table 2. As of June 30, 1983, the APR Program has expended $14,224,000. and committed $15,631,200. to projects under appraisal. It is noted that municipalities have also contributed a sum of $452,601. These contributions come close to paying for the administrative costs of the program, which permits the Commonwealth's dollars to be spent almost entirely on restriction purchases.

Purchasing of development rights (restrictions) in Massachusetts is saving key agricultural land for local production. Many other economic and environmental benefits are being realized. Farmland that otherwise would have been lost to development is now in the hands of younger farmers so that production will continue (Appendix A). Massachusetts taxpayers will have the opportunity to enjoy fresh fruits and vegetables, pick-your-own opportunities, a more varied landscape and the maintenance of agricultural businesses.

Table 1. Status of Applications Received -- June 30, 1983

	Number of Applications	Acres	Actual Purchase/Estimate Purchase Price
A. Acquisition Complete	77	6,763	$12,137,700.
B. Final Vote Completed: Under Purchase Agreement	16	1,755	$ 2,086,300.
C. Voted to Appraise	75	8,684	$15,631,200.*
D. Voted to Appraise but landowner refused offer.1	30	4,598	$ 8,276,400*
E. Eligible projects awaiting action.	70	7,580	$13,644,000.*
F. Little Likelihood of funding due to low rating.	77	5,908	$10,629,000.*
G. Rejected.	17	525	$ 945,000.*
TOTAL	362	35,810	$63,349,600.

[1] Landowners have initially refused offer, however, circumstances may change and the projects can become viable at anytime.

* Denotes estimated purchase price calculated by multiplying $1800 (statewide average cost/acre) times the acreage of each group.

Table 2. Summary of Program Expenditures and Commitments as of June 30, 1983.

Expenditure Item		Expenditure Amount
Restriction Purchases		
Completed - 77 Properties		$12,137,700.
Under Agreement - 16 Properties		$ 2,086,300.
	SUB-TOTAL	$14,224,000.
Adminstrative Costs		
Appraisal Services		$ 456,949.
Farmland Appraisal Report		$ 25,750.
Legal Services		$ 81,573.
Supplies and Equipment		$ 6,377.
	SUB-TOTAL	$ 570,649.
Total Program Expenditures		$14,794,649.

1 On a per acre basis, restriction purchases have an average cost of $1700. to $1800.

2 Administrative costs are four percent of the restriction purchase expenditure.

Table 3. Summary of Agricultural Preservation Restriction Program Acquisitions By Fiscal Year, 1980-1983.

	Fiscal 1980	Fiscal 1981	Fiscal 1982	Fiscal 1983	Total
Acquisitions Completed	2	16	24	35	77
Number of Acres	97	1431	2122	3113	6763
Acqvistion Cost	$280,000.	$2,776,225.	$3,744,350.	$5,337,125.	$12,137,70
Town Contributions	$ 25,500.	$ 161,372.	$ 178,585.	$ 87,143.	$ 452,6
Net Cost to Commonwealth	$254,500.	$2,614,852.	$3,565,765.	$ 5,249,982.	$11,685,0

Table 4. County Location and Number of APR Applications Received as of June 30, 1983.

County	Municipalities Represented	Number of Applications	Acreage
Barnstable	4	4	312
Berkshire	8	18	3,043
Bristol	12	31	2,466
Dukes	3	5	394
Essex	13	38	3,047
Franklin	9	22	2,814
Hampden	9	21	1,993
Hampshire	13	59	5,432
Middlesex	21	44	2,486
Norfolk	8	16	884
Plymouth	14	27	2,975
Worcester	32	77	9,964
TOTALS*	146	362	35,810

*Approximately 100 new applications are received each year, of which about one-half may be approved.

Table 5. Processing of an Agricultural Preservation Restriction Application.

Farmland owner and municipality return their respective completed portion of the application to Department of Food and Agriculture.

Owner is notified that the application has been received and within 2-4 months a field inspection is conducted by Department staff. The quality and status of the application is assessed by staff and Agricultural Lands Preservation Committee (ALPC)*.

Application is selected for appraisal and price discussion.

Application is postponed for future consideration.

Application has little likelihood of being selected.

Application is rejected.

Following completion of the market value appraisal and farm value appraisal, both reports are reviewed by consulting appraiser. A review report is written summarizing the market, farm and restriction value. A period of 1-3 months is needed.

Landowner receives letter from Commissioner regarding ALPC status.

Landowner receives letter from staff regarding appraised values. Meeting can be set up to discuss appraisal results. Landowner may hire their own appraiser.

If landowner agrees to price a final vote is needed from ALPC. Following final approval by the Committee a purchase agreement is signed and a title search is conducted. Legal documents are approved by the Attorney Generals Office, Div. of Capital Planning and Operations, Comptroller and Governor's Council. A closing at the local Registry of Deeds follows in 1-3 months.

If landowner disagrees, evidence supporting his position should be presented to the consulting appraiser. Consulting appraiser makes final decision about value of the restriction. Acceptance of the appraised value is voluntary on the part of the landowner and the ALPC. Unresolved price disagreements typically will delay further consideration of application until the local real estate market changes.

*Members of Agricultural Lands Preservation Committee as established by statute. Commissioner, Dept. of Food & Agriculture, Secretary of Environmental Affairs, Secretary of Communities & Development, Chairman, Board of Food & Agriculture, four public appointments by Governor, two of whom must be farmers.

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STATE-OWNED FARMLANDS

As well as administering the Agricultural Preservation Restriction Program, the Bureau of Land Use is also involved with issues concerning state-owned agricultural land. Of the estimated 7,600 acres of open state-owned farmland, approximately 3,300 acres are part of state conservation lands: forests, watersheds, and wildlife management areas. The other 4,300 acres are associated with the state's public health, mental health, correctional, and reformatory institutions and are not afforded the same protection as the conservation lands. Presently, the Department of Corrections is the only state agency committed to an expanding farming program and one Mental Health farm remains active. The rest of the institutional farmland is leased on a short-term basis to local farmers, is idle, or is being disposed of by the state, generally for municipal development projects. The Bureau is completing an inventory of the institutional farmlands which will form the basis of a policy for the protection and optimum agricultural management of these lands. Legislation has also been filed which would transfer the management of these lands directly to the Department of Food and Agriculture and would place an APR on them in the event of their sale out of state ownership.

In the past year, the Land Use staff worked to save 35 acres of farmland once part of Worcester State Hospital. This land will be made available for community gardening, a farmers' market, and use by local growers. The Bureau is part of the Task Force planning the reuse of Boston State Hospital in Mattapan. The Bureau is working to protect the community gardens there, and is advocating for the creative integration of other urban agricultural activities in plans for the rest of the site (e.g. landscaping with fruit trees, greenhouse operations, commercial composting, etc.)

MEPA REVIEW

The Land Use staff also participates in the Massachusetts Environmental Policy Act review process. The staff reviews the Environmental Notification Forms of development projects which will impact farmland and makes recommendations accordingly.

THE COMMUNITY GARDENING PROGRAM

The statewide inventory of community gardens has been expanded to include information on garden coordinators, locations, sizes, and numbers of gardens; availability of water and other services on site, plot fees, special restrictions; and other descriptive information. This fall the Bureau will be conducting a survey of the community gardens to update the inventory and identify areas that need attention.

THE MASS SEED PROGRAM

The MassSeed Program provides free vegetable seeds for low-income gardeners, and seeds at wholesale cost for community (and other groups of) gardeners. Participation in the program and seeds at wholesale has been essentially frozen over the past few years, and the size of each seed kit has been diminished from 12 to 5 packets. This year, however, the program can again accept new participants, and increase the number of varieties in each kit to 10, thanks to an increased allocation in the FY 1984 budget. The program is currently funded at $10,000. and the value of food which will be produced from this investment is estimated to be well over $1,000,000.

THE MASSACHUSETTS FRUITION PROGRAM

The Fruition Program, which was created in 1980 to promote the growing of public-access fruit and nut plants in Massachusetts, has been growing steadily. The program provides information and educational workshops for the public, as well as plants for community groups to plant on public-access land. The current tally of groups involved in the program is as follows:

County	No.of Cities and Towns	No. of Community Groups
Berkshire	3	4
Franklin	3	3
Hampshire	3	3
Hampden	3	3
Worcester	10	12
Essex	10	14
Middlesex	8	10
Suffolk	6 (neighborhoods)	24
Norfolk	6	6
Plymouth	3	3
Bristol	3	3
Barnstable	12	15
Dukes	3	5
Nantucket	0	0
TOTAL	72	105

Many of the trees and shrubs which were distributed in the earlier days of the program have begun to bear fruit -- from raspberries, blueberries and sour cherries to pears and Chinese chestnuts. This has been the cause of much excitement in community gardens, public parks and school grounds. Several promising new fruits have been added to the distribution list, including Actinidia arguta, a hardy relative of the kiwi fruit, and Asimina triloba, or the paw-paw.

This year the Fruition Program staff concentrated on fine-tuning the application and application review procedures, identifying more local suppliers of plants, and improving follow-up on participating groups. The Fruition Program received a good deal of publicity, including a television spot on Channel 22 News in Springfield, several radio interviews and announcements, and many newspaper and journal articles.

In the Fruition spirit, the Department participated in this years's Earth Day Celebration, with Governor Michael S. Dukakis, Secretary of Environmental Affairs James S. Hoyte, and Commissioner Frederic Winthrop, Jr. planting two butternut trees on the MDC Esplanade in Boston.

DIVISION OF ANIMAL HEALTH
Mabel A. Owen, Director

The eradication of serious disease in our domestic food and fiber animals is of incalculable importance to the consumer, especially in the area of diseases having a direct human health impact. It is of no less importance to the farmer/producer, who is as always caught on the horns of the twin dilemmas of increasing feed costs and escalating transportation charges. The maintenance of good animal health and production is often his only profit margin. With an administrative staff of seven and a field and professional staff of fourteen, the Division of Animal Health seeks to achieve and maintain the highest possible level of animal disease prevention, control and eradication.

BRUCELLOSIS

Since this bovine/porcine disease appears in man as Undulant Fever, its eradication from our herds has always carried a top priority. We are pleased to be able to say that Massachusetts has joined a select group of fifteen states as "Free" of brucellosis. Under federal rules, this status is granted after a state has been totally free of any known cases of brucellosis for a period of not less than twelve months. Massachusetts was declared a "Free" state on June 1st, 1983.

Maintenance of this status will be equally important as gaining it. To this end, we mandate the vaccination of all female calves (between the ages of four and eight months, as of October 1, 1983) and we retest all imported cattle between forty-five and sixty days post entry. The Brucellosis Ring Test (BRT) is performed for every dairy herd six times per year, with a full-herd blood test for other than negative results. We monitor all slaughter cattle through the MCI program with a similar serology follow-up. "Free" status in brucellosis has been long sought in Massachusetts and represents tremendous effort and cooperation from owners, producers and dealers alike. We have given the maintenance of this rating the highest possible priority.

TUBERCULOSIS

With sporadic outbreaks of human tuberculosis in cities the world over, we cannot afford to relax our fight against this disease in cattle. All cattle and dairy goats in Massachusetts are tuberculin-tested on a three-year rotation. No reactors have been discovered within the state for almost five years and we expect therefore to achieve Accredited-Free Status in tuberculosis early in fy 1984. Meanwhile we continue to test regularly and expect to have this program firmly placed on an October-through-April testing season within the year. We also plan to test regularly by town rather than by herd, for a considerable saving in time and mileage.

HOG CHOLERA AND OTHER SWINE DISEASES

The entire country has remained hog cholera free during fy 1983. There has been increased vigilance against African Swine Fever (ASF) and considerable federal interest in the eradication of Swine Pseudorabies Virus (PRV). With two area herds showing positive to tests for PRV, legislation was sought, and obtained, to curb any additional importation of this costly disease. The imposition of the new federal swine-feed cooking law (Swine Health Protection Act) and attendant licensing went into effect in fy 1983 and resulted in an increased number of federal swine inspections. To the end of fy 1983, no federal cooking licenses had been issued, largely because of ambiguities in the regulations. Originally requiring additional cooking for bakery products, fish meal, meats,ice cream and dairy products, these regulations were strongly opposed by the feeders in Masschusetts. The Department of Food and Agriculture and the Division of Animal Health concurred and largely through their efforts, several federal register regulations are currently under change or deletion.

EQUINE PROGRAMS

With the appointment of a Supervisor of Riding Academies, the licensure of Riding Stables/Schools and Riding Instructors is again under a full-time employee with license updating and increased on-site inspection. Licensing of Equine Dealers/Transporters, also under this supervision, is being inaugurated. Both consumer and animal-protective in intent, these programs have long enjoyed considerable industry support. Interest in the light horse, in particular the Sport or Show horse, has always been very great in Massachusetts. The presence here of the United States Olympic (Three Day Event) Team and international-level competitions in Dressage, Combined Driving and Polo have contributed greatly to this interest.

As in past years, Massachusetts requires a negative Coggins Test (EIA) of all equines within six months prior to entry and within twenty-four months prior to showing for all Massachusetts-owned and shown animals. Although there have been small sporadic outbreaks of Equine Infectious Anemia (EIA) in surrounding states, there have been no positive tests in animals native to Massachusetts for more than four years.

For the second year, a comprehensive program to drug-test pulling horses, ponies and oxen at fairs has been conducted. Well-received by both spectators and exhibitors, this program has, for the second year, revealed no transgressors. Testing itself is done at the Massachusetts Racing Commission Laboratory by its fully-accredited technicians.

As in past years, a concerted effort by the Division of Animal Health and the Department of Public Health was made to alert horse owners and the general public to the threat of Eastern Encephalitis. Carried by mosquitoes, this disease caused the death of at least six Massachusetts equines late last summer and is expected to surface again in the late summer of calendar 1983. Once again, this division emphasized that people cannot contract the disease from horses but should take proper precautions against exposure to infected mosquitoes during the late summer danger period. Almost invariably fatal to the non-vaccinated horse, prevention for the equine is by vaccination, conducted annually each spring.

PET SHOP LICENSING

Pet shop licensing, with attendant mandatory record keeping, is conducted both for animal protective reasons and to provide a particular "trace-back" procedure. During fy 1983, as in prior years, several "exposed" parrots were quarantined and tested for the presence of Exotic Newcastle Disease. Endemic in South America, this disease appears in the United States with increasing regularity via sick or smuggled psittacine birds. Pet Shop records allow a trace-back capability for a disease which, should it escape into poultry flocks, would cause untold losses.

POULTRY PROGRAM

Routine inspections for egg quality are carried out in retail stores, hospitals and schools by a field staff of six Poultry Products Inspectors. These men also monitor the use of the logo "Massachusetts Grown and Fresher" which assures that extra-special characteristic of the locally-produced egg. The blood-testing program for all poultry in the Commonwealth also assures the world that hatching eggs from here are free from many genetically carried diseases. Our export market for hatching eggs is worldwide.

RABIES AND OTHER DOMESTIC ANIMAL PROGRAMS

We initiate, through Town Animal Inspectors and/or Dog Officers, the quarantine of any animal which has bitten a person. With rabies on the alarming increase in wild animals (i.e. raccoons) in the mid-Atlantic states, we have tightened this program materially; although, since all dogs must be vaccinated and most towns enforce this and attendant leash laws, and since most bites are canine, we do not feel the degree of danger of rabies to humans in Massachusetts has increased. A new rabies vaccine for human use has recently become available through the interest in this usually fatal disease by all state Departments of Public Health.

In fy 1983, rules and regulations for the licensing of Guard Dog Businesses were promulgated. Licensing under this program was begun. Inspections prior to licensing are carried out by agents of the Animal Rescue League, the Massachusetts Society for the Prevention of Cruelty to Animals and other designated humane societies.

IN CONCLUSION

The goal of the Division of Animal Health is good domestic animal health, as mirrored by the eradication of certain important animal diseases, the prevention of others and the effective control of any which remain. To this end, both office and field personnel are totally dedicated. We are indebted to others: the farming community, the Massachusetts Farm Bureau Federation, agents of the MSPCA and other humane societies, our counterparts in the APHIS branch of USDA, those in Veterinary Services at the University of Massachusetts and those at the Surburban Experiment Station in Waltham. We have also had the help and support of the entire Department of Food and Agriculture, The Secretary of Environmental Affairs' and both the Legislature and the Executive Office of the Commonwealth. We feel that Massachusetts present excellent status in major areas of animal health truly reflects this joint effort.

ANNUAL REPORT OF THE COUNSEL

Peter F. Hines, Counsel

Counsel was successful this year in obtaining a landmark Superior Court decision sustaining the rights of all Massachusetts farmers where they are unreasonably regulated by a municipality.

Judge Elbert Tuttle, Esq., Justice of the Superior Court of the Commonwealth, wrote the Decision after recognizing the status of this Department as an Intervenor on behalf of the Spence Family Farm of the Town of Reading.

The case will probably be the leading precedent in this jurisdiction from now on and springs forth from a fascinating statement of facts and law - all contained in the Decision of this leading jurist. The Defendant Town of Reading did not appeal and therefore the case stands as the last word of adjudication on the issues raised. Following is the exact judicial quotation:

STATEMENT OF THE CASE, FINDINGS OF FACT, RULINGS OF LAW AND DECISION

These two cases involve the sale of agricultural products by William Spence & Sons, Inc., d/b/a Spence Brothers (Spence) from a seven-acre parcel of land owned by Spence in the Town of Reading, which parcel is currently being utilized by Spence to grow agricultural products. The parcel involved lies within a residential district as defined by the Reading Zoning Bylaws and contains approximately seven acres. Spence, during each Christmas season, sells Christmas trees from said property which are grown by Spence on land owned by Spence in Canada. The issue in this case is whether a farmer owning land within a residential district can sell farm-type products on that land not grown on the land involved but grown on land owned by the farmer in another location under the provisions of Section 3 of Chapter 40A of the General Laws. Because this matter has serious impact on farming interests within the Commonwealth of Massachusetts, the Court allowed a motion to intervene made by the Massachusetts State Department of Food and Agriculture.

The case was presented to the Court on a Stipulation of Facts.

Section 3 of Chapter 40A provides in part as follows:

"No zoning ordinance or bylaw shall...or shall any ordinance or bylaw prohibit, unreasonably regulate or require a special permit for the use of land for the primary purpose of agriculture, horticulture, floriculture, or viticulture; nor prohibit or unreasonably regulate the expansion or reconstruction of existing structures thereon for the primary purpose of agriculture, floriculture, or viticulture, including those facilities for the sale of produce, and wine and dairy products, insofar as a majority of such products for sale have been produced by the owner of the land on which the facility is located, except that all such activities may not be limited to produced by the owner of the land on which the facility is located, except that all such activities may be limited to parcels of more than five acres in areas not zoned for agriculture, horticulture, floriculture, or viticulture..."

The Court can find no case interpreting Section 3 of Chapter 40A of the General Laws.

The legislature most recently amended the provisions of Section 3 of Chapter 40A in Chapter 40 of the Acts of 1982. That amendment specifically added a clause allowing farmers to sell products from their land provided such products were produced by the farmer himself. It seems clear to the Court that the legislature intended in the adoption of Section 3 of Chapter 40A to permit farmers to sell products produced on land owned by them although the location of that land might not be contiguous to the place where the sale actualy occurred.

Based on the Stipulations of Fact and Rulings of Law, it is ORDERED AND ADJUDGED that Christmas trees grown by William Spence & Sons, Inc., d/b/a Sepnce Brothers, on any land owned by them can be sold by said William Spence & Sons, Inc., d/b/a Spence Brothers, from the property owned by them at 40-42 West Street, Reading, Massachusetts, under the provisions of Section 3 of Chapter 40A of the Massachusetts General Laws.

Massachusetts
grown... and fresher!

State Food and Agriculture Commissioner Frederic Winthrop, Jr., (right) presents "Massachusetts Grown and Fresher" flag to Michael V. Fair (left), Commissioner of the State Department of Correction. The ceremonies at the Northeastern Correctional Center in Concord honored the Center's farm program and its dairy herd, which has been named by the Massachusetts Dairy Herd Improvement Association three consecutive years as the most improved dairy herd in Massachusetts.

BUREAU OF DAIRYING

David L. Sheldon, Chief

The goal of our programs is to provide consumers of the state with a safe and adequate supply of fluid milk. Currently we employ a staff of thirteen, including the Chief of the Bureau, one Supervisor, two Senior and nine other Dairy Inspectors, and an office staff of two.

Our primary responsibility as authorized by Chapter 94 of the General Laws is to properly inspect and register all dairy farms in Massachusetts and all dairy farms in the surrounding states who ship, or wish to ship, their milk into our state. We inspect and issue permits for milk pasteurization plants and milk receiving or transfer stations shipping into the state and milk receiving or transfer stations within the state.

Water samples are also taken on dairy farms for laboratory analysis to determine the quality of the water supply.

Whenever problems are encountered which cannot be resolved by a reinspection, a hearing is held if requested. Depending on the outcome of the hearing, the operation in question will be reinspected and approved or suspended.

In addition, we assist dairy farmers in Massachusetts with any mastitis problems by collecting individual quarter samples from each cow in a herd and delivering these samples to the Diagnostic Laboratory at the University of Massachusetts in Amherst.

Dairy farmers in this voluntary program find it of great assistance in controlling mastitis infections in their herds which ultimately increases the quantity and quality of their milk production.

We work in conjuction with the U.S. Department of Agriculture by acting as its agent when sampling milk powder at the West Springfield Agri-Mark, Inc. plant and inspecting this plant for U.S. Department of Agriculture standards as a powder plant.

We are reimbursed for all inspections made and dry milk powder samples taken for USDA.

The United States Public Health - Interstate Milk Shippers Program was conducted effectively and efficiently throughout the year with our three certified rating officers. All requested ratings were made and the reports submitted to the United States Public Health Service, Food and Drug Administration office at 585 Commercial Street, Boston, Mass.

BUREAU OF DAIRYING STATISTICS

Fiscal Year 7/1/82 - 6/30/83

Farms

Dairy Farms Inspected	9,332	Approved	7,602	Not Approved	1,730
Dairy Farms Reinspected	1,912	Approved	1,590	Not Approved	322
Hearings Requested	30	Hearings Held	20	Farms Suspended	16
Other Farm Visits	764	Days of Joint Inspections	78	Farms Reinstated	3

Plants

Milk Plants Inspected 78 Approved 66 Not Approved 12 Spot Checked 5
Dealer Visits 363

Samples

40 Water Samples Collected

Mastitis

736 Herds Sampled 43,137 Cows Sampled 167,011 Samples Collected

U.S.D.A.

64 Days Sampling Milk Powder
4 Days U.S.D.A. plant inspections

Income for the fiscal year from U.S.D.A. for sampling and inspection work was $7,324.97. Bureau of Dairying personnel traveled 339,407 miles during the fiscal year to complete their work.

The total number of dairy farms holding certificates of registration in Massachusetts on June 30, 1983 was 772. This is a decline from 812 holding certificates a year ago.

The total number of dairy farms holding certificates of registration in the surrounding New England states and New York state on January 1, 1983 was 7,504; a year earlier 7,527 dairy farms held certificates, a minimal change in our out-of-state supplies.

A total of 65 plants have applied for pasteurization plant permits and/or a milk plant permit. Twenty-seven of these plants were out-of-state pasteurization plants.

In 1977, adjustments to our Chapter 94 law were passed which would allow us to work with our neighbor states to accept their inspection for the renewal of our certificate of registration. We have discussed this with these states and we have formulated an agreement to implement these adjustments.

Our plans are to continue inspecting all new producers to our markets and to make a random selection of the producers holding current certificates of registration to determine the overall compliance level of that supply.

For the producers whom we did not inspect, we will go to the state where the farm is located to review the records for determining and recording the inspection date and status.

It is our hope in the Bureau of Dairying that this adjustment will ease the pressure on our available work force and enable us to carry on an even more effective inspection program for the dairy farms, receiving plants and haulers in Massachusetts.

BUREAU OF FARM PRODUCTS
James M. Cassidy

A diversified farm product quality control program including the Federal-State Fruit & Vegetable Shipping Point Inspection Service Program enforces the "truth in labeling" laws for feed, seed, fertilizer and limestone programs, regulates certain produce branding labeling and storage laws, and collects approximately $1000,000 per year in registrations and inspection fees which are turned into the Commonwealth's Treasury.

The Shipping Point Inspection Program is regulated by a memorandum of understanding contract with the U.S. Department of Agriculture. All other regulating functions are under the provisions of Chapter 128, General Laws of Massachusetts as amended.

Federal-State Shipping Point Inspection Program:

For seventy continuous years all State Departments of Agriculture in the nation have cooperated with the U.S. Department of Agriculture in providing this service for each state's fruit and vegetable products. This program allows the fully trained and licensed Massachusetts inspector to issue U.S.D.A. certificates on shipments of fruit and vegetables, attesting to the grade, quality and pack which are needed by buyers and receivers at terminal markets.

For many years the Inspection Service in Massachusetts, through strict adherence to grades and other essential data, has done much to upgrade the quality, condition and grade of the final product. Massachusetts leads the world in the production of cranberries and many shipments of this product carry a Federal-State certificate.

By law, all apples must be inspected for export and our inspection service has been instrumental in helping Bay State farmers maintain this lucrative market. The inspection service has aided in developing new methods of transportation, especially in the export field.

In 1982, demand for our inspection service again has been on the shipment of export apples, mainly to the United Kingdom. Apples are also inspected for shipment to California where the demand has been increasing each year, and for military purchases.

The export apple inspection is of major importance, due primarily to the demand and acceptance of "controlled atmosphere" stored apples, our valuable McIntosh variety and our quality packs. McIntosh apples cannot be grown successfully in European countries. The controlled atmosphere method of storing apples greatly lengthens the marketing season and allows shipment of apples in good condition well into June, thus providing a more orderly marketing season for the entire apple industry.

Inspection certificates are also issued for potatoes and onions in the Connecticut Valley area and cranberries on Cape Cod.

Feed Program:

1,939 labels of animal feed, ingredients, pet foods and medicated feed ingredients were reviewed and registered on an annual basis. Samples of products offered for sale were drawn and tested at the West Experiment Station, University of Massachusetts for conformance with label.

Fertilizer Program:

700 labels of fertilizer and limestone were reviewed and registered. Tonnage taxes were assesesed and collected semi-annually. Assessment penalties in shortage of guarentee level were levied and $3,800 in appropriate fines collected and either turned back to the farmer or submitted to the Commonwealsth's Treasury.

Seed Program:

637 brands of seed, including agricultural lawn mixtures, vegetables, flower tree and shrub seeds were collected and tested for truth in labeling. 40 stop sale orders were issued on violations, covering 738 packages. Seed was removed on account of poor germination, noxious weeds, or because it was unfit for seeding.

A major change in the state's lawn seed labeling regulation was heard and approved during May. This is seen as one of the first states in the country to move for a uniform seed label that will be accepted in all shipping areas.

Lime Program:

30 Limestone brands and grades were registered and checked for conformance to label during the year.

Branding Law:

Inspections are made at wholesale, retail, roadside, and farm level to enforce the apple, potato and native laws. Misbranded products are relabeled or removed from sale.

Storage Laws:

Records are kept in cold storage and controlled atmosphere apple rooms in order to attest to their compliance with such laws and so to allow such stored products to move into certain prohibited market areas of the country.

The Bureau, through strict adherence to laws, grades, label reviews and other essential data, has done much to upgrade the quality, condition and grade of the final farm product being offered for sale in Massachusetts.

The programs are continuos and reflect the general agriculture crop conditions and the current market situations. The uniform laws and grades allow for the free movement of theses products in interstate and export commerce with a minimum of difficulty. The honest label approach insures the consumer of an accurate farm product of good quality.

Programs are becoming more accurate and more smoothly administered due to better informed and trained personnel. The use of a word processor for the registration of feed and fertilizer brands and the recording of the collection of fees and tonnages has improved the programs in general.

Working with other states, USDA, FDA and the various regulated industries has insured a quality farm product that is more easily marketed by the producer and the shipper.

SEED INSPECTION PROGRAM/OFFICIAL TESTED

	1979	1980	1981	1982
Agriculture	37	54	61	48
Mixtures (lawn)	103	100	57	47
Vegetables	528	445	507	409
Flowers	132	173	215	125
Sprouts	-	-	-	8
	800	772	840	637

40 stop sales orders covering 82 lots on 738 packages of seed removed from sale-poor germination, noxious weeds, unfit for seeding, out of date test. 3 cases turned over to the Federal Seed Act for USDA action.

FRUIT & VEGETABLE INSPECTION REVENUE

	1979	1980	1981	1982
Apples	$16,090.07	$11,084.50	$6,012.06	$8,822.93
Cranberries	577.00	----	220.00	360.00
Onions	1,741.96	219.10	32.00	700.70
Potatoes	4,411.57	826.68	157.50	613.81
	$22,820.60	$12,130.28	$6,421.56	$10,497.44

FEED FERTILIZER AND LIME REGISTRATION

	1979	1980	1981	1982
Feed/a	2,014	1,922	1,857	1,939
Fertilizer/b	799	732	729	691
Fertilizer/c	14	12	12	13
Lime	24	31	31	30

FEED, FERTILIZER AND LIME REVENUE

	1979	1980	1981	1982
Feed/a	$50,350.00	$48,050.00	$46,425.00	$48,475.00
Fertilizer/b	20,125.00	18,300.00	18,225.00	18,525.00
Fertilizer/c	1,175.00	1,500.00	1,500.00	1,625.00
Lime/d	600.00	775.00	775.00	750.00
Fertilizer/e	10,826.73	15,722.29	12,952.31	10,571.53
Fertilizer/f	1,348.81	3,929.57	2,760.54	3,858.78

/a Brands
/b Specialty brands
/c Commercial plants
/d Brands
/e Tonnage
/f Penalties

Registrations and revenue are collected on a calendar year.

Revenue generated by inspection and registration fees totaled $94,303.75.

BUREAU OF MARKETS
Guy L. Paris, Chief

The major function of the Bureau is to develop marketing outlets for Massachusetts agricultural products.

Each week over 1000 truckloads of fresh meat, vegetables and fruits are imported into Massachusetts from other states and countries. In total, all "imported foods" result in $3.4 billion leaving the state each year. Many more of these dollars could be circulated to the local economy, and our objective is to increase cash receipts of Massachusetts agricultural products.

The various activities of the Bureau are all related to the overall goal of increasing farm production and sales in the state and a summary for Fiscal Year 1983 follows.

PROMOTIONAL PROGRAM

Many of the promotional events and activities are tied in with use of the "Massachusetts Grown and Fresher" slogan. A logo with this tagline has helped increase consumer awareness of our local farm products, and it is our intent to make this label synonymous with quality.

Governor Edward J. King proclaimed the month of August 1982, as "Massachusetts Grown and Fresher Month." The unveiling of the promotional program took place at a barbecue and lamb roast which followed the Produce Buyers Tour, sponsored by the New England Vegetable Growers Association and the Bureau of Markets. The tour gave produce buyers an opportunity to view on the ground level how the Massachusetts Vegetable Growers are producing a wide variety of excellent commercial crops.

Some 4000 "August is Vegetable Month" pins were distributed to produce departments of large and small retail food markets; 800 23" x 30" posters were also distributed in the same manner. The Bureau assisted the Massachusetts Flower Growers with their Buyers Conference and Seminar and their Thanksgiving and Christmas radio commercials. The Massachusetts Flower Growers tagged over a half million potted plants with the "Massachusetts Grown and Fresher" logo tags.

The apple growers of the state spent $14,573 in newspaper advertising promoting Massachusetts apples and cider. The Bureau assisted the apple growers with their promotional programs.

The Massachusetts Poultry Association received from the Bureau of Markets the sum of $2,740 for the promotion of Massachusetts brown eggs and fresh turkeys; the total cost of their promotional programs amounted to $10,800 which was shared by the producers.

Appropriation for fiscal 1983 was $50,000 for the promotion of Massachusetts agriculture; $30,000 was allotted to commodity groups on a cost sharing program, each commodity promoting and advertising their product.

Commodity groups receiving promotional funds are bound by signed agreement that they will:

1. Provide at least an equal amount of funds for their programs.
2. Use and promote the Massachusetts Grown and Fresher logo on displays, consumer packages, and advertising when and where appropriate.
3. Submit affadavits of expenditures at the completion of programs. Allotments are based on a formula developed by the marketing plan committee. For image building programs 70%, industry equity balance 25%, new and small industries 5%.

A "Massachusetts Grown and Fresher-Means Business" conference and trade show was held at the State House March 8, 1983. Some six hundred growers, buyers, supermarket and government officials in attendance heard Governor Michael S. Dukakis lend his support to the growth of Massachusetts agriculture.

Massachusetts
grown...and fresher!

ROADSIDE MARKETING SPECIALIST

Craig M. Richov

Massachusetts ranks sixth nationally in gross farm sales and can boast of a $30 million plus roadside marketing industry. Helping Massachusetts to remain one of the most progressive states in this field is the Department's Roadside Marketing Specialist, who visited close to 200 farms this year. His in-store evaluations and recommendations to grower-retailers are intended to further upgrade the appearance, image and success of the more than 700 farm markets throughout the Commonwealth.

A Roadside Marketing Newsletter is published monthly to inform growers of current marketing trends, merchandising ideas and techniques. Plans for new roadside markets were provided in Easthampton, Framingham, Hudson, Leominster, Scituate, Westminster and Auburn, and improved market layouts were recommended for twenty-five stands across the state. This years speaking engagements included the Central Massachusetts Small Farm Management Program, South Boston Career Day, and Westfield State College Wine and Grape Symposium.

Many hours of pre-season information gathering and plans culminated in the release of the Department's first "Roadside Marketing Directory " which lists many of the state's roadside stands with information on location, season and crops sold. Other promotional activities of the marketing specialist include the distribution of "Massachusetts Grown...and Fresher" promotional materials and participation on the Marketing and Promotion Committee of the New England Vegetable Growers Association. One of the highlights of the work accomplished with this Committee was the 1982 Produce Buyers' Tour.

The Marketing Specialist was also the Trade Show Manager of the 1983 "Mass Grown and Fresher...Means Business" Agricultural Seminar and Trade Show at the State House in March. He also organized a live farmers market in the Massachusetts Building at the Eastern States Exposition in West Springfield to promote Massachusetts products and offer information on Massachusetts farmers markets, roadside stands and pick-your-own operations. Similar exhibits were also set up at the Brockton Fair and other functions and fairs throughout the year.

FOREIGN TRADE SPECIALIST

Dr. Schiva Gandhi

Due to the economic trends of the day, there has been a marked increase in enquiries on agricultural statistics, latest developments in foreign markets and other information relating to foreign trade. The hundred or so Massachusetts agribusiness firms, some new and others experienced exporters, participating in our export programs are faced with many harsh realities. Reduced U.S. exports to the European community due to a strong U.S. dollar, worldwide economic recession and the European economic community subsidies and also the fact that lesser developed countries strapped for foreign exchange have been concentrating on importing only "essential and necessary commodities", have made these firms eager to tap all potential world markets. The representatives of food and beverage manufacturing companies as well as exporters are becoming increasingly interested in the upcoming food expositions, for these provide them with an ideal opportunity to introduce new products, identify new markets and new trends in food processing, as well as boost sales in national and international markets.

This year the National Association of State Departments of Agriculture (NASDA) and the Foreign Agricultural Service of the USDA sponsored the NASDA National Food and Agricultural Exposition, which took place at the World Congress Center, Atlanta, Georgia, on May 17-19, 1983. This was the first national export food show ever held in the U.S. Several Massachusetts firms participated in this exposition. The general consensus is that the show was an outstanding success, and the vast majority of exhibitors are looking forward to the next show.

EUSAFEC (Eastern U.S. Agricultural & Food Export Council, Inc.) program committee meetings are regularly attended throughout the year. At these meetings, the members formulate policies to be adopted and initiatives to be taken to increase the exports of food and other agricultural products. Cabled sales leads for various food products received from buyers throughout the world are frequently channeled via EUSAFEC to this office, from whence they are disseminated to various producers of agricultural food products in the State, for further action.

The Foreign Trade Section is currently concentrating on disseminating information on the second U.S. International Food Show, which is sponsored by EUSAFEC. The event is to take place in the New York Coliseum (N.Y.C.) April 15-18, 1984. The Coliseum will be an international marketplace, where several thousand domestic and foreign buyers will examine, taste, discuss and buy the products the exhibitors have to offer.

Foreign buyers visiting Massachusetts are apprised of the products available from the State of Massachusetts. This section, in conjunction with other agencies, informs producers and exporters of such visits, and provides liaisons between buyers and sellers.

Many Massachusetts firms have increased their agricultural exports this year through the use of TORS (Trade Opportunity Referral Service) provided by the Foreign Agricultural Service (FAS). This service gives timely market information via Export Briefs, a weekly publication containing all trade enquiries received during the week, and via computerized trade leads, which are mailed daily. An interested producer who has a quality product that is selling well in the domestic market, and has a definite interest in market expansion, has been encouraged to introduce the product to the foreign markets, through the FAS publication contacts, which is translated into various languages and distributed worldwide. Buyers of foreign countries are in turn contacting Massachusetts exporters, listed in each publication, for possible purchases.

PUBLIC INFORMATION
Janet Christensen

In the Bureau of Markets, many of the public information projects relate to the current promotional program.

For the State House conference March 8, a 20 minute slide presentation was produced entitled "Massachusetts Grown and Fresher!" Copies are now available for use by schools and various groups in both 1/2-inch and 3/4-inch videotape as well as the original slide-tape format.

The Bureau also produced a 30-second public service announcement for television, promoting fresh fruits and vegetables during their peak season.

During the summer months, the public information officer prepared weekly news releases on the various crops coming into season.

Throughout the year, she works with the various bureaus of the Department, editing news releases on current topics of concern and interest and assisting on any other brochures and/or informational pieces as requested.

The public information officer has assisted in the development and work of a statewide committee for "Agriculture in the Classroom." The major goal of this program is to inform young people about the problems and accomplishments of agriculture in their state and nation. At present a curriculum for grades 4 through 6 is in progress, and it is hoped that eventually educational materials will be available for classes at all grade levels.

Another long range project is a proposed regional farm TV series in collaboration with the small scale agricultural committee sponsored by the Conference of New England Governors and Eastern Canadian Provinces. Our Department has participated in the early planning for this proposed series which would be of benefit and interest to a wide range of growers.

The Public Information Officer serves on the Board of The Boston Food Bank and The Federation of Farmers Markets. This year there were some 45 markets across the state, and the interest and support for this popular form of direct marketing continues to grow.

The Bureau of Markets also employs two Market Investigators who collect current price, market and crop news and other statistics. This information is in turn reported to producers, dealers, consumers and other interested parties.

A narrative report is prepared for press and radio and statistical reports for newspapers and other publications and office files. Inquiries for information on marketing of food and agricultural products are also answered.

A milk flavoring Program of the Bureau provides an organoleptic evaluation service for the milk industry with objectives of preventing consumer dissatisfaction with flavor quality of milk and milk products.

BUREAU OF MILK MARKETING
John B. Kelley, Director

The Division continued to fulfill its assigned functions in requiring compliance with state laws aimed at preventing disruptions in milk markets. The year saw the finalization and distribution of an expert study compiled by Case & Co. setting forth wholesale price and cost standards essential to prohibiting the sale of milk below cost and other predatory practices. A significant number of milk producers have petitioned the Department for a hearing pursuant to Section 12 of General Law Chapter 94A. This matter remains under consideration.

The Bureau of Milk Marketing continues to assume the bonding and security responsibilities of the Department of Food and Agriculture under 94 Section 94A. Using several monitoring procedures, security requirements of proprietory handlers buying milk from independent producers are received on a monthly basis. Individual handler audits are conducted when necessary with security now held by the Department in excess of one million dollars.

This year saw the closing of the centralized electronic testing facility in White River Junction, Vermont. Testing of milk for payment purposes is now being conducted in-state at the different handling plants and receiving stations, adding to the monitoring responsibilities of the Bureau.

Licensing of (4100) milk dealers at wholesale and retail was expedited by new data processing techniques. Legislation has been filed by interested parties to change the licensing requirements for bulk tank drivers to allow for a more efficient and comprenhensive monitoring of that sector of the industry.

The year witnessed a continuation of heavy capital investment by the fluid handling industry in Massachusetts. This investment in new and renovated facilities has increased efficiencies but most importantly will improve the quality and life of product offered to the public.

Milk production in Massachusetts aided by favorable conditions in relation to other states and regions continues strong, increasing by two percent during the year. A unit grain train and milling facility will begin operation during the upcoming year in Ayer, Massachusetts. The existence of this facility along with the deregulation of freight rates under the Stagger's Act has negated the historical disadvantage of high freight rates born by the industry.

DIVISION OF FAIRS

Stephen F. Quinn, Director

The Massachusetts Agricultural fairs enjoyed an all time high in attendance and attractions in the past fair season.

The total attendance reported by the 129 agricultural fairs and shows was a record 4,166,847.

Agricultural exhibits totalled 87,987. Of this number, 36,574 were prepared by individual young people or youth groups. An all time high of 26,229 other exhibits were recorded which help immensely in attracting large crowds.

Several good changes were noticed this year which should help in the continued growth of our fairs.

The closing of the Commonwealth Pier caused a void in the availability of an area to be used for shows and expositions near Boston. The opening of the Bayside Exposition Center will fill this void. The New England Flower Show was one of the first attractions held at the center and the facility certainly proved to be everything desired in an exhibition hall. Other agricultural groups have met with the new management and are considering holding other events there.

Another big change noticed was the leasing of the Brockton State Building to the Brockton Agricultural Society for exhibition purposes. For the past fifteen years the building was leased to the Brockton School Department and then to the CETA program. The Society spent a great deal of time, energy and money getting the building cleaned up and suitable for exhibits once again. This year's fair was a great start and hopefully, as it gets more publicity, it will assist in helping to draw larger crowds.

The Massachusetts Building at the Eastern States Exposition in West Springfield which is still operated by the Division enjoyed a tremendous reception from the 990,000 patrons who visited the Big E. New attractions which brought considerable delight to the fair goers who visited the Massachusetts Building were the cheese making demonstrations and the Agricultural Stabilization and Conservation Services exhibit which displayed an old fashioned grocery store.

Ten part-time fair inspectors were employed again this year to help aid the Division in its monitoring of the agricultural prizes and the use of rehabilitation monies. This year $320,000 dollars were spent for prizes by the Division , and another $140,000 were added by the various agricultural societies.

The Rehabilitation Committee met in West Springfield in December and approved $88,000 dollars from requests of over $400,000 dollars from 47 fairs.

The Fairs Division worked with the Massachusetts Wool Board, Inc., in promting the use of local wool and lamb products, and assisted them in gathering, processing and marketing their wool. Last year, members received $1.25 per lb. for their clip as apposed to thirty eight cents per pound for wool on the commercial market.

The total appropriated budget for the fiscal year was $658,283.59 of this total $570,783.59 were appropriated for the fair prize awards, fair inspections, promotional programs, and administration costs; $87,500 were appropriated for the rehabilitation program to help assist with the upkeep at fair grounds.

STANDARDBRED PROGRAM

Barbara E. Dolloff, Supervisor

The Standardbred Horse Breeding program encourages and promotes the breeding, propagation, ownership, raising, racing and marketing of Standardbred horses bred in the Commonwealth of Massachusetts. Thus it encourages the keeping of open lands to promote agriculture and agricultural related industries within the Commonwealth.

1983 brought many changes to the breeding program. It was the first full year under the legislation Chapter 558 of the Acts of 1981, which enlarged the cash prize awards. This program expansion created rapid growth in the industry.

In the past two years we have seen the number of stallions standing in the State rise from 45 to 84. The mares bred have risen from 125 to 399. We have seen many new farms being developed and many acres of land being implemented into the program.

Sire Stakes Racing was held at seven different fair tracks across the State, providing great entertainmenmt for fair goers, and presenting to a wide spectrum of the state's population the advantages of a Sire Stakes Program.

This year has seen the addition of a spring racing series at Foxboro Raceway for three year old trotters and pacers. The final purses for these events were $15,000 for the trotters and $40,000 for the pacers . A total of $400,000 was expended by the program this year and an additional $49,000 was added towards purses by the horsemen, via sustaining payments and entry fees.

The Standardbred Agricultural Fair and Breeding Fund Committee assist the Commissioner in the administration of the program. This committee consists of five members, one from the Massachusetts Fairs Association, one from Massachusetts Farm Bureau, two from the breeding industry and one member at large. These members are appointed for a five-year term with the Governor's approval.

THOROUGHBRED BREEDING PROGRAM

Peter Bundy, Supervisor

The Massachusetts Thoroughbred Breeding program, of the Acts of 1981, continued to expand in the past year.

The breeder, stallion and owner awards of twenty five percent, fifteen percent, and five percent of purses won by eligible Massachusetts bred Thoroughbred horses amounted to $235,930.24. These incentive awards were garnered by Massachusetts breds racing at Suffolk Downs and four agricultural fairs. At these race tracks, Massachusetts breds went postward 1,162 times, accounting for 113 wins, 101 2nds and 143 3rds.

In the fall of 1982, stakes races restricted to Massachusetts breds were offered at Suffolk Downs for the first time. These races were written for differing age groups and sexes over a varying set of conditions and distances. Each race was run for a gross purse of $22,500. The Breeding Fund contributed $15,000.00 to each purse and Ogden Suffolk Downs Racing Association contributed $7,500.00 for each purse.

During the past fiscal year, nine stake races for Massachusetts breds were run at Suffolk. Only two of these were non-betting races. The other races were pari-mutuel events, and a total $716,000 was wagered on these races.

The stakes racing part of the program has been very effective, because horse owners are anxious to purchase young horses that will be eligible for these restricted state bred races. A ready market for good, young horses has been created.

Thoroughbred mares bred to Massachusetts stallions numbered 226 for the 1982 fiscal year, and in 1983, the number reached an all time high of 380. This is an increase of 59 percent over the previous year. The number of Thoroughbred stallions standing in the state, and registered with the Department of Food and Agriculture went from 42 in 1982 to 65 in 1983. This represents an increase of 64 percent, another healthy growth sign in the horse "farming" business. It is anticipated that this rapid rate growth will continue.

PESTICIDE BUREAU
Jeffrey L. Carlson, Acting Chief

While the federal EPA was embroiled in controversy, finally resulting in the resignation of several top policy makers including Administrator Ann Burford, the Pesticide Bureau continued to take the initiative addressing several important and controversial issues here in Massachusetts.

MASSACHUSETTS DEVELOPS REGULATIONS ON TERMITICIDES

Following several months of evaluation culminating with formal hearings, the Bureau passed its recommendation on to the Pesticide Board relative to the promulgation of regulations further restricting the use of termiticides in Massachusetts, thus becoming the first state in the country to develop comprehensive regulations addressing this problem. The regulations which became law shortly thereafter are intended to reduce public exposure to all pesticide products used as termiticides. In related action and on recommendations of the Bureau, the Pesticide Board Subcommittee classified all products, containing chlordane, aldrin and heptachlor as restricted use products ensuring that only appropriately certified applicators will have access to these materials.

MONITORING PROGRAM DEVELOPED FOR TEMIK

The problem of groundwater contamination came close to home in Fiscal 1983 as the Bureau detected significant amounts of the insecticide aldicarb (Temik) in two private wells in western Massachusetts. The compound which is used to control the Colorado Potato Beetle, was found in well water samples in Maine, Wisconsin and Long Island, N.Y., prompting the Pesticide Bureau to initiate a preliminary survey here in Massachusetts. As a result of the preliminary data, we have been able to develop a comprehensive monitoring program which will enable us to determine the extent of the problem and the steps necessary to address it.

PROGRAMS TO PROTECT HONEYBEES SUCCESSFUL

Considerable progress was seen in the area of protecting honey bees from pesticides. With only one significant honeybee kill reported to the Bureau in FY 1983, it is apparent that the regulations promulgated to control the use of microencapsulated methyl parathion, coupled with educational work carried out by the Cooperative Extension Service and the Bureau, resulted in a significant reduction in all pesticide related bee kills.

POLICY ON THE USE OF HERBICIDES ON RAILROAD LAYOUTS AND UTILITY RIGHTS OF WAY

After more than a year following our initial request for funding, the Bureau was able to secure $60 thousand dollars in appropriations earmarked for the development of a generic environmental impact report (GEIR) on the use of herbicides on railroad layouts and utility rights-of-ways. The GEIR is intended to answer many qustions concerning the compounds now in use which have resulted in significant controversy in Massachusetts as well as in many other states across the country and finally to provide us with information needed to develop a comprehensive statewide policy in this area.

PROPERTY EXCLUSION REGULATION PROMULGATED

Regulations were also promulgated providing for a mechanism allowing properties to be excluded from certain pesticide applications. The regulations were initiated by the submittal of a petition from the South Shore Environmental Association and resulted in several months of discussion before final regulations were presented to the Pesticide Board for approval.

REGISTRATION, CERTIFICATION AND ENFORCEMENT PROGRAMS ON THE INCREASE

In addition to the several issues discussed above, the Bureau assumed full administrative responsibility for reviewing and processing pesticide product registrations (totalling more than 5,500) and initiated steps to join the National Pesticides Information Retrieval System which will allow access to valuable data relative to pesticide products on a national level as well as provide us with a modern and efficient data processing system to handle our own registration program needs.

The Certification and Enforcement Programs both continued to increase in activity despite an actual loss of one position in the Enforcement Program.

The Bureau certified or licensed nearly 6,000 individuals in FY 1983 while its enforcement activities resulted in the issuance of 87 administrative orders and referral of five cases to the Office of the Attorney General. Enforcement continues to be a high priority with the Bureau.

The Pesticide Bureau budget in fiscal year 1983 totalled $285,000 with $140,000 from federal grant funds which included $75,000 in funds awarded to the University of Massachusetts Medical School to support our pesticide analytical laboratory.

BUREAU OF PLANT PEST CONTROL
P.C. Kuzmiski, Chief

Massachusetts nurseries experienced strong sales of nursery stock during 1982 even though we had a crippling snowstorm with temperatures in the low teens in early April. In essence, the nursery season began in late April rather than in the usual early April part of the year. However, as the season progressed the sales gathered momentum and resulted in another satisafactory business year.

The key to sales is having material ready to go, and many of our nurseries are now growing containerized stock and utilizing irrigation to help meet this demand. Modern techniques such as plant tissue culture propgation, and plant indexing for virus disease control are now being practiced by some of our nuseries.

This year the Gypsy Moth seemed to be a minor problem in the nurseries. This pest is still on the decline from the record year of 1981.

Our nurseries ranked 17th among the states for their production and sale of nursery stock. The total value of the production is about 40 million dollars a year. There are about 345 nurseries inspected and certified, comprising 2700 acres of land. Two of our nurseries were ranked in the top 100 nationally this year.

The activities of the Bureau are as follows:

NURSERY AND GREENHOUSE INSPECTION:

Nuseries had few major pest problems this year. The majority of insect infestations were scattered throughout the state with no one area having a particular serious infestation.

Gypsy Moth, Japanese Beetle, scales and aphids were light, while Spruce Gall and White Pine Weevil were somewhat heavier in a few nurseries.

The cool, wet spring was responsible for an increase in some of the fungus diseases. Leaf spots on rose and dogwood were common as was the Phytopthera Canker disease on Spruce.

Whitefly, leaf miners, and leaf rollers on Chrysanthemum and slugs were common pests in greenhouses.

Control measures applied in nurseries kept the Gypsy Moth at a low level this year.

Number of Nurseries inspected	-	345
Number of Greenhouses inspected	-	57
Number of Agents licensed	-	315

PHYTOSANITARY EXPORT CERTIFICATION:

Federal phytos for plant export	-	94	
Federal phytos for apple export	-	170	(150,000 bushels)
State phytos for plant export	-	277	
State phytos for tree & shrub seed	-	461	

POSTENTRY QUARENTINE:

Postentry stock was growing in 29 different sites this year. The sites included nurseries and private properties.

Activities in this program include site pre-screening, inspection of stock, and final inspection of stock for release from detention.

RIBES CONTROL-AREA PERMITS:

73 control-area permits issued this year to allow planting of Ribes in non-prohibited planting sites.

There are 144 towns and cities out of the 351 in this state where the planting of ribes is prohibited.

GYPSY MOTH:

Acres defoliated - 1981 - 2,826,095
Acres defoliated - 1982 - 1,383,265

This pest was not a serious problem in the nurseries due to the controls applied by the nurserymen. It also was apparent that the moth population had diminished about 50 per cent from the previous year. Hopefully, the moth population will again decrease during 1983.

BROWN-TAIL MOTH:

This pest still exists in small numbers in some areas of Cape Cod. The infestation is considered to be insignificant, and seashore plants such as wild Beach Plums seem to be the predominant host.

STATE PLANT PEST SURVEYS:

Surveys for presence of the Gypsy Moth in lands abutting nurseries were made this year. Visual survey and trapping for European Chafer were continued with no new finds of this insect. A survey of strawberry nurseries was completed for presence of Red Stele disease with no positive finds. Results of a soil survey for Golden Nematode found a Heterodera sp. cyst of very poor quality to make a definite determination. A followup survey is planned for the 1983 season. Also, surveys were made to determine the incidence of the European Corn Borer in specified locations.

COLLABORATION WITH U.S.D.A - APHIS:

Programs this year included Gypsy Moth, Japanese Beetle, Black Stem Rust, and Pest Detection.

Massachusetts is now actively involved in the Cooperative National Plant Pest Survey and Detection Program. The pests now primarily being evaluated are arthropods of apples, corn, and alfalfa.

BUREAU PERSONNEL, REVENUE, AND APPROPRIATIONS:

Personnel this year included 5 permanent and 13 temporary employees. Revenue from Nursery certification, and Agent registration fees amounted to $35,910. Budget appropriations for the Bureau were $105,000.

APIARY INSPECTION

Over 800 hives in eight countries were inspected. Previously uninspected counties typically had a high rate of disease while counties that have received regular annual inspection have shown a substantial decrease in contagious brood diseases. The rehiring of former area inspectors enhances rapport with the beekeepers and increases the quality and quantity of hive inspection.

This year the bees produced an excellent honey crop with hobbyists averaging over 100 pounds of surplus per hive. Honey prices are fairly stable at around 50¢ per lb. wholesale and $1.60 per lb. retail; however, these prices are not keeping up with the escalating costs of bees and equipment.

A Bee Task Force comprised of fruit growers, pesticide applicators, and beekeepers met through the winter to establish a plan to reduce pesticide related bee kills. The primary recommendation of the Task Force was the registration of beekeepers which is now a bill pending before the Legislature. The use of microencapsulated Methyl-parathion (Penncap-M) was strongly regulated and subsequently there have been no reported beekills due to this pesticide. Probably the most important outcome of the meeting was the awareness focused on the habits of the honeybee and the farmers' use of pesticides. The Task Force identified the problem, found solutions, and communicated these to the beekeeping and farming communities.

Legislative bills were submitted this year to update the apiary inspection laws.

Massachusetts
grown...and fresher!

ANNUAL STATISTICAL REPORT

Massachusetts Department of
Food & Agriculture
P.C. Kuzmiski, Chief
Bureau of Plant Pest Control

APIARY INSPECTION

Season 1983

COUNTY	No. of Beekeepers	No. of Colonies Examined	No. of Colonies Owned	No. of Colonies w/AFB	No. of Colonies w/EFB	No. of Colonies Ordered Treated	No. of Colonies Ordered Destroyed
BARNSTABLE							
BERKSHIRE	139	436	457	14	0	4	8
BRISTOL	285	1719	3042	37	50	37	13
ESSEX	298	1634	1953	61	45	65	42
FRANKLIN	196	545	936	17	3	15	5
HAMPDEN	210	785	1089	22	0	2	10
HAMPSHIRE	178	421	567	10	1	1	8
MIDDELSEX	624	2060	3130	83	104	134	92
NORFOLK	337	138	1081	0	1	1	0
PLYMOUTH	377	2151	2133	149	99	153	95
SUFFOLK	36	0	104	0	0	0	0
WORCESTER	692	2057	2102	49	16	39	26
TOTALS	2995	11,946	16,594	442	319	451	299

Estimated No. Colonies
in Massachusetts
20,000

% A.F.B. 1982 2.7 E.F.B. 3.4 1982
% A.F.B. 1983 3.7 E.F.B. 2.7 1983

STATE RECLAMATION AND MOSQUITO CONTROL BOARD

Lewis F. Wells, Jr., Chairman
James L. Dallas, Member
Gilbert A. Bliss, Member
Elizabeth M. Costello, Secretary
Mark S. Buffone, Entomologist

DUTIES AND NAMES CHANGE WITH THE TIMES

Historically, the State Reclamation Board supplanted the State Drainage Board. The general aim during the years of early reclamation was to utilize the numerous and extensive tracts of swampland scattered throughout the Commonwealth. The tracts of land were considered worthless at that time to land owners and communities.

This bug ridden land was a deteriment to local development and a constant danger to the health of citizens. The wetland areas were converted to be utilized for crop production, hay production, pasturage for stock, cranberry production, and excavating valuable deposits such as iron ore, peat,and clay.

During this same period, the Board was charged with an additional responsibility-mosquito control!

Until this year, our name has been the State Reclamation Board. Legislation was filed to further define the current day statutory mission of the Board. Consequently, Chapter 214 of the Acts and Resolves of 1983 was approved. Today, the Board is called the State Reclamation and Mosquito Control Board.

THE THREAT OF EASTERN EQUINE ENCEPHALITIS

Due to a mild winter and some heavy spring flooding, the 1983 mosquito season was characterized by large populations of mosquitoes in many areas of the Commonwealth. The annoyance and discomfort caused by these bloodsucking pests were not the only concern this year as regards horses and humans. Two confirmed human cases of a rare but serious disease carried by mosquitoes turned the State Reclamation and Mosquito Control Board's attention towards the disease called Eastern Encephalitis (EE) in late summer of 1982.

Sometimes the bite of a mosquito can be more than just a nuisance, it can be a prologue to EE, a rare control disease in humans that affects the central nervous system. A person with this disease can become ill with headache, high fever, and drowsiness which can progress to stupor, coma, and death. Also, the disease affects horse (equine) populations.

The infectious agent responsible for causing the illness is a virus. Since humans and horses do not further transmit the disease, they are referred to as dead-end hosts. Simply, this means that the concentration of virus in the blood of horses or humans is not adequate to allow a non-infected mosquito to transfer the disease to another host.

Eastern Encephalitis occurs principally along the Atlantic and Gulf coasts, as well as inland near certain types of fresh-water swamps. Historically, Massachusetts has recognized outbreaks with human and horse involvement during the late '30's, the mid '50's, the early '70's and recently in 1982 and 1983.

The virus is maintained in a cycle in nature which involves mosquitoes and wild birds. One mosquito species typically feeds on birds and is important in the amplification of the virus among wild bird populations. In order to bring about an episode of transmission of the disease to people and/or horses, a "bridge mosquito" is needed to bridge the virus from birds to humans and horses. This different type of mosquito feeds on a variety of hosts and several species and are thought to be able to spread the disease to humans and horses.

GROUND SPRAYING AUTHORIZED TO PROTECT PUBLIC HEALTH

This year the regional mosquito control projects were alerted and authorized to intensify ground spraying in high risk areas to protect the public health. Mosquito control activities were concentrated in areas where virus isolations or human and horse cases were documented, as well as in high risk areas delineated by the Department of Public Health. All available equipment was mobilized to focus immediate attention on the EE risk areas.

The pace of the mosquito control efforts began to outstrip local resources and consequently, Governor Dukakis made available emergency monies in the sum of $150,000 dollars to the State Reclamation and Mosquito Control Board. These funds addressed the threat of EE to the public health in specific areas. The EE threat caused a strain on the budgets of organized mosqutio control projects and on budgets of individual municipalities not in organized mosquito control projects and located in the areas of risk. These funds enabled organized mosquito control projects and local municipalities in the high risk areas to continue the intensified ground spraying to reduce the likelihood of EE transmission to the public. Operations continued until weather conditions greatly reduced the contact between mosquitoes and humans.

Massachusetts statistics relative to the 1983 season are as follows: six (6) confirmed human cases with one death; and five (5) horse cases, all fatal. Since 1938, there have been sixty-five (65) human cases with thirty-six (36) deaths as the result of the sporadic appearance of Eastern Encephalitis in Massachusetts.

Looking ahead to 1984, it appears likely that 1984 will also be a year of higher than average risk from EE. This event will depend on environmental conditions (such as a relatively warm winter and wet spring) which would be favorable to the maintenance of virus in the environment and also would influence the survival and flourishing of mosquitoes.

MOSQUTIO CONTROL PROGRAMS APPROVED

This year the State Reclamation and Mosquito Control Board forwarded mosquito control information cards to those municipalities not currently members of a regional mosquito control project. The Board received one hundred (100) responses from various municipalities. Seventy-three (73) municipalities reported that no mosqutio control program would be implimented in 1983. Twenty-seven (27) municipalities reported that a local mosquito control program would be carried out in 1983. All mosquito control programs received by the State Reclamation and Mosquito Control Board were reviewed and approved, some as modified to meet Board requirements.

BOARD CHAIRMAN RETIRES

A long time friend of mosquito control and employee of the Department of Food and Agriculture, John J. McColgan retired this year after many excellent years of service to the Commonwealth. Mr. McColgan was the former chairman of the State Reclamation and Mosquito Control Board and General Counsel for the Department of Food and Agriculture. The Department and all his friends in mosquito control wish him well and extend their gratitude for a job well done!

We welcome Lewis F. Wells, Jr. to the State Reclamation and Mosquito Control Board as designee of Commissioner Winthrop. On August 17, 1983, Mr. Wells was elected Chairman of the Board.

PLEA TO A MOSQUITO

Pray transfer your air attack
To my husband's slothful back.
Puncture him with malice keen
Then perhaps he'll fix that screen!

-Helen Gorn Smith

1982 CENSUS OF AGRICULTURE

PRELIMINARY REPORT

MASSACHUSETTS

AC82-A-25-000(P)
Issued December 1983

The preliminary reports are being published on a flow basis for all counties in the United States with 10 farms or more, and for each State and the United States. The preliminary information on major data items presented is standard for each State and county, except in Table 4, Crops Harvested, and the crop portion of table 5 where the items shown vary by State according to their relative importance. Data for 1982 are subject to revision. Final results will be published in Volume 1, Geographic Area Series, and will be available as a printed report and on microfiche. In addition to volume 1, individual final county results for each State will be available on microfiche.

Inventories of livestock, poultry, and other specified items are as of December 31 of the census year. Production and sales data for crops and livestock are for the calendar year, except for a few items (such as citrus) for which the production year overlaps the calendar year.

Data for farms reporting acreages and inventories for 1982 and 1978 are directly comparable. Dollar values have not been adjusted for changes in price levels between census years.

State totals shown in this report for 1978 have been adjusted to be comparable with 1982 data. The 1978 data for the State, as published in the 1978 Census of Agriculture, were a combination of a mail list enumeration and a personal canvass of a sample of area segments, which provided estimates for farms not on the mail list. For 1982, the area sample survey was not conducted; thus, the data represent only farms on the mail list. The adjustment to the 1978 data was made by subtracting the area sample results from the 1978 totals. County data for 1978 shown in the 1982 reports did not require adjustment as they were collected from the mail list, comparable to 1982.

The appendix in this report shows the effect of the area sample on selected 1978 data. The volume 1 appendix will provide a more detailed description of how the census was taken, along with pertinent definitions and explanations of the effects of eliminating the area sample in 1982.

Definition of farm—The data shown represent totals for places or establishments which qualify as farms for census purposes. A farm, as defined for the 1982 and 1978 censuses, is any place from which $1,000 or more of agricultural products were sold, or normally would have been sold, during the census year.

Reliability—Data in this report are based on a census of all identified farm and ranch operators. Because data for selected items are collected from a sample of operators, the results are subject to sampling and nonsampling errors. The volume 1 appendix will contain a detailed discussion and measures of the reliability of the data.

Acknowledgments—Special tribute is paid to the millions of farm and ranch operators and other agriculture-associated people who furnished the individual reports from which these statistical summaries were compiled. Also acknowledged with gratitude are the contributions of the U.S. Department of Agriculture and other public and private agencies who gave their support and willingly assisted individuals requesting help in completing their census reports.

Symbols—The following symbols are used throughout the tables: - Represents zero. (D) Withheld to avoid disclosing data for individual farms. (X) Not applicable. (Z) Less than half the unit shown. (NA) Not available.

Table 1. **Farms, Land in Farms, and Land Use: 1982 and 1978**

All farms		1982	1978
Farms	number	5 403	4 846
Land in farms	acres	621 902	617 350
Average size of farm	acres	115	125
Value of land and buildings[1]:			
Average per farm	dollars	208 626	183 339
Average per acre	dollars	1 961	1 443
Farms by size:			
1 to 9 acres		921	798
10 to 49 acres		1 652	1 399
50 to 179 acres		1 813	1 598
180 to 499 acres		864	883
500 to 999 acres		130	137
1,000 to 1,999 acres		24	25
2,000 acres or more		9	6

All farms		1982	1978
Land in farms according to use:			
Total cropland	farms	4 941	4 845
	acres	266 065	276 686
Harvested cropland	farms	4 606	4 397
	acres	197 768	197 405
Cropland used only for pasture or grazing	farms	1 853	1 845
	acres	51 683	62 358
Other cropland	farms	904	1 021
	acres	16 614	16 923
Woodland, including woodland pastured	farms	3 274	2 982
	acres	253 550	252 134
Pastureland and rangeland other than cropland and woodland pastured	farms	870	661
	acres	31 977	28 882
Land in house lots, ponds, roads, wasteland, etc.	farms	3 735	3 261
	acres	70 310	69 657
Irrigated land	farms	1 000	966
	acres	17 636	16 753

[1] Data are based on a sample of farms.

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Table 2. Selected Summary Items: 1982 and 1978

All farms	1982	1978
Market value of agricultural products sold .... $1,000..	281 766	211 994
Average per farm .... dollars..	52 150	42 852
Crops, including nursery and greenhouse products .... $1,000..	139 475	100 079
Grains .... $1,000..	836	321
Cotton and cottonseed .... $1,000..	-	-
Tobacco .... $1,000..	2 494	6 965
Hay, silage, and field seeds .... $1,000..	5 624	4 469
Vegetables, sweet corn, and melons .... $1,000..	19 221	13 450
Fruits, nuts, and berries .... $1,000..	60 950	30 426
Nursery and greenhouse products .... $1,000..	46 465	41 032
Other crops .... $1,000..	3 864	3 395
Livestock, poultry, and their products .... $1,000..	142 293	111 915
Poultry and poultry products .... $1,000..	25 526	18 504
Dairy products .... $1,000..	80 840	61 549
Cattle and calves .... $1,000..	12 212	12 181
Sheep, lambs, and wool .... $1,000..	445	230
Hogs and pigs .... $1,000..	4 497	5 255
Other livestock and livestock products .... $1,000..	18 774	14 195
Farms by value of sales:		
$250,000 or more[1]	210	136
$100,000 to $249,999[1]	436	353
$40,000 to $99,999	711	696
$20,000 to $39,999	532	545
$10,000 to $19,999	530	507
$5,000 to $9,999	655	637
Less than $5,000	2 327	2 070
Value of agricultural products sold directly to individuals for human consumption .... farms..	1 397	1 057
$1,000..	15 291	9 564
Farm-related income:		
Income from machine work, customwork, and other agricultural services .... farms..	353	397
$1,000..	965	831
Farms by type of organization:		
Individual or family .... number..	4 541	4 087
acres..	431 878	429 461
Partnership .... number..	377	439
acres..	63 463	72 643
Corporation:		
Family held .... number..	366	218
acres..	68 325	55 448
Other than family held .... number..	49	40
acres..	6 780	20 949
Other—cooperative, estate or trust, institutional, etc. .... number..	70	62
acres..	29 456	28 858
Tenure of operator:		
Full owners .... farms..	3 523	3 160
acres..	306 288	294 961
Part owners .... farms..	1 481	1 465
acres..	283 833	297 490
Owned land in farms .... acres..	185 055	190 671
Rented land in farms .... acres..	98 778	106 819
Tenants .... farms..	399	321
acres..	31 781	24 888
Operators by principal occupation and residence:		
Farming	2 942	2 852
Residence on farm operated	2 315	2 264
Residence not on farm operated	400	382
Other than farming	2 461	2 094
Residence on farm operated	1 913	1 596
Residence not on farm operated	365	336
Operators by age group:		
Under 25 years	64	69
25 to 34 years	681	518
35 to 44 years	1 163	853
45 to 54 years	1 119	1 137
55 to 64 years	1 261	1 366
65 years and over	1 115	983
Average age	51.5	52.5
Female operators:		
Farms .... number..	571	383
Land in farms .... acres..	42 373	32 754
Operators by race:		
White	5 376	4 919
Black and other races	27	27
Operators reporting days of work off farm:		
Any	2 896	2 520
100 days or more	2 425	2 111
Selected farm production expenses[2]:		
Livestock and poultry purchased .... $1,000..	11 530	10 950
Feed for livestock and poultry .... $1,000..	47 302	39 491
Commercially mixed formula feeds .... $1,000..	36 896	33 082
Seeds, bulbs, plants, and trees .... $1,000..	5 996	7 737
Commercial fertilizer .... $1,000..	7 158	7 148
Other agricultural chemicals[3] .... $1,000..	4 865	3 862
Hired farm labor .... $1,000..	43 147	40 380
Workers working 150 days or more .... farms..	1 322	1 359
number..	5 159	5 801
Contract labor .... $1,000..	3 129	1 652
Customwork, machine hire, and rental of machinery and equipment .... $1,000..	3 555	1 691
Energy and petroleum products .... $1,000..	23 002	15 685
Gasoline and gasohol .... $1,000..	6 757	4 641
Diesel fuel .... $1,000..	2 465	[illegible] 072
Electricity .... $1,000..	5 875	3 832
Interest expense .... $1,000..	10 141	(NA)
Machinery and equipment[2]:		
Estimated market value of all machinery and equipment .... $1,000..	153 401	121 137
Average per farm .... dollars..	28 429	24 507
Motortrucks, including pickups .... farms..	4 505	4 183
number..	9 381	9 018
Wheel tractors .... farms..	4 250	4 031
number..	9 959	9 840
Grain and bean combines, self-propelled only .... farms..	22	26
number..	24	26

[1] Retabulated 1978 data for 1982 comparability.
[2] Data are based on a sample of farms.
[3] Data for 1978 include the cost of lime which was not collected in 1982.

Table 3. Livestock and Poultry: 1982 and 1978

All farms	1982	1978
Cattle and calves inventory .... farms..	2 311	2 073
number..	102 366	96 951
Farms by inventory:		
1 to 19 .... farms..	1 243	962
number..	8 996	7 459
20 to 49 .... farms..	412	467
number..	12 951	14 829
50 to 99 .... farms..	357	356
number..	24 746	24 349
100 to 499 .... farms..	294	283
number..	50 886	47 059
500 or more .... farms..	5	5
number..	4 785	3 255
Cows and heifers that had calved .... farms..	1 922	1 790
number..	58 067	57 136
Beef cows .... farms..	1 071	904
number..	8 176	7 408
Farms by inventory:		
1 to 19 .... farms..	993	821
number..	4 830	4 226
20 to 99 .... farms..	72	79
number..	2 421	2 557
100 to 199 .... farms..	4	3
number..	(D)	(D)
200 or more .... farms..	2	1
number..	(D)	(D)
Cattle and calves inventory—Con.		
Cows and heifers that had calved—Con.		
Milk cows .... farms..	1 111	1 156
number..	49 891	49 728
Farms by inventory:		
1 to 9 .... farms..	320	330
number..	783	804
10 to 29 .... farms..	165	200
number..	3 210	4 049
30 to 49 .... farms..	264	248
number..	10 133	9 462
50 to 99 .... farms..	247	267
number..	16 320	17 778
100 or more .... farms..	115	111
number..	19 445	17 635
Heifers and heifer calves .... farms..	1 707	1 579
number..	36 859	32 043
Steers, steer calves, bulls, and bull calves .... farms..	1 473	1 332
number..	8 440	7 772

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Table 3. Livestock and Poultry: 1982 and 1978—Con.

All farms		1982	1978
Cattle and calves sold	farms	1 908	1 803
	number	47 034	51 782
Farms by number sold:			
1 to 19	farms	1 238	1 084
	number	7 858	7 820
20 to 49	farms	426	443
	number	13 415	13 713
50 to 99	farms	171	195
	number	11 685	13 118
100 to 499	farms	71	76
	number	(D)	12 702
500 or more	farms	2	5
	number	(D)	4 431
Cattle fattened on grain and concentrates sold	farms	243	292
	number	2 778	2 829
Dairy products sold	farms	879	902
	$1,000	80 840	81 549
Hogs and pigs inventory	farms	619	628
	number	39 570	54 586
Farms by inventory:			
1 to 99	farms	540	527
	number	6 128	6 286
100 to 499	farms	64	72
	number	12 572	16 185
500 to 999	farms	9	20
	number	(D)	(D)
1,000 or more	farms	6	8
	number	(D)	(D)
Hogs and pigs used or to be used for breeding	farms	281	281
	number	4 639	6 751
Farms by inventory:			
1 to 9	farms	180	151
	number	586	494
10 to 24	farms	50	56
	number	679	774
25 to 49	farms	32	40
	number	1 047	1 391
50 or more	farms	19	34
	number	2 325	4 092

All farms		1982	1978
Hogs and pigs sold	farms	451	435
	number	44 391	61 181
Farms by number sold:			
1 to 99	farms	371	316
	number	6 717	6 025
100 to 499	farms	64	87
	number	(D)	19 581
500 to 999	farms	8	22
	number	5 213	14 045
1,000 or more	farms	8	10
	number	(D)	21 530
Feeder pigs sold	farms	127	145
	number	7 363	12 010
Litters of pigs farrowed between—			
Dec. 1 of preceding year and Nov. 30	farms	293	299
	number	6 009	8 252
Dec. 1 of preceding year and May 31	farms	242	258
	number	3 061	4 011
June 1 and Nov. 30	farms	227	227
	number	2 948	4 233
Sheep and lambs inventory	farms	452	327
	number	9 846	6 515
Ewes 1 year old or older	farms	391	269
	number	6 260	4 340
Sheep and lambs sold	farms	338	239
	number	5 705	3 906
Sheep and lambs shorn	farms	381	254
	number	7 984	5 525
	Wool..pounds	52 440	37 444
Horses and ponies inventory	farms	1 161	906
	number	8 765	5 658
Chickens 3 months old or older inventory	farms	727	686
	number	1 276 405	1 466 853
Hens and pullets of laying age inventory	farms	721	671
	number	1 183 226	1 262 043
Farms by inventory:			
1 to 3,199	farms	686	618
	number	84 086	109 715
3,200 to 9,999	farms	10	22
	number	56 859	132 326
10,000 to 19,999	farms	10	16
	number	129 000	209 180
20,000 or more	farms	15	15
	number	913 281	830 822
Broilers and other meat-type chickens sold	farms	47	41
	number	162 903	163 218
Turkeys sold	farms	81	82
	number	156 434	137 562

Table 4. Crops Harvested: 1982 and 1978

All farms		1982	1978
Corn for grain or seed	farms	165	182
	acres	6 077	4 634
	bushels	591 680	401 871
Corn for silage or green chop	farms	885	912
	acres	37 543	38 462
	Green weight..tons	628 742	632 528
Farms by acres harvested:			
1 to 24 acres		445	449
25 to 99 acres		355	371
100 to 249 acres		74	81
250 acres or more		11	11
Tobacco	farms	46	44
	acres	352	1 078
	pounds	574 990	1 536 802
Irish potatoes	farms	136	151
	acres	3 759	3 479
	cwt	732 649	748 479
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc.	farms	2 663	2 520
	acres	116 729	118 929
Farms by acres harvested:			
1 to 24 acres		1 301	1 043
25 to 99 acres		1 076	1 158
100 to 249 acres		239	277
250 acres or more		47	42
Alfalfa hay	farms	980	1 005
	acres	28 893	26 750
	Dry weight..tons	74 412	67 517

All farms		1982	1978
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc.—Con.			
Tame hay other than alfalfa, small grain, and wild hay	farms	1 948	1 772
	acres	67 441	68 191
	Dry weight..tons	130 038	135 865
Vegetables harvested for sale	farms	1 011	968
	acres	15 307	14 812
Farms by acres harvested:			
0.1 to 4.9 acres		456	397
5.0 to 24.9 acres		378	405
25.0 to 99.9 acres		152	145
100.0 acres or more		25	21
Sweet corn	farms	526	581
	acres	7 299	7 041
Land in orchards	farms	489	426
	acres	9 332	8 111
Apples	farms	452	394
	Bearing and nonbearing..acres	8 457	7 334
	pounds	92 049 245	91 275 846
Cranberries harvested for sale	farms	394	382
	acres	10 222	10 063
	cwt	1 194 692	1 072 248
Nursery and greenhouse products, mushrooms, and sod grown for sale	farms	716	749
	sq. ft.	8 261 749	9 149 944
	acres	2 605	3 042
	$1,000	46 465	41 032
Nursery products	farms	173	184
	sq. ft.	160 396	298 207
	acres	2 180	(D)
	$1,000	(D)	8 296

Table 5. **Farms With Sales of $10,000 or More: 1982 and 1978**

[Excludes abnormal farms]

Item	1982	1978
Farms .... number..	2 404	2 222
Land in farms .... acres..	401 419	401 577
Average size of farm .... acres..	167	181
Value of land and buildings[1]:		
Average per farm .... dollars..	304 572	259 290
Average per acre .... dollars..	1 962	1 382
Farms by size:		
1 to 9 acres	281	251
10 to 49 acres	575	429
50 to 179 acres	835	796
180 to 499 acres	571	607
500 to 999 acres	117	115
1,000 to 1,999 acres	19	20
2,000 acres or more	6	4
Land in farms according to use:		
Total cropland .... farms..	2 281	2 108
acres..	198 000	200 533
Harvested cropland .... farms..	2 218	2 046
acres..	156 812	150 761
Irrigated land .... farms..	704	603
acres..	16 717	15 306
Tenure of operator:		
Full owners	1 234	1 103
Part owners	953	942
Tenants	217	177
Operators by principal occupation:		
Farming	1 971	1 887
Other than farming	433	335
Estimated market value of all machinery and equipment[1] .... $1,000..	111 814	88 167
Average per farm .... dollars..	46 823	39 572
Market value of agricultural products sold .... $1,000..	271 666	202 133
Average per farm .... dollars..	113 006	90 969
Crops, including nursery and greenhouse products .... $1,000..	133 925	94 119
Livestock, poultry, and their products .... $1,000..	137 740	108 014
Poultry and poultry products .... $1,000..	25 236	18 156
Dairy products .... $1,000..	79 834	80 821
Selected farm production expenses[1]:		
Livestock and poultry purchased .... $1,000..	10 425	10 277
Feed for livestock and poultry .... $1,000..	43 984	37 580
Seeds, bulbs, plants, and trees .... $1,000..	5 770	7 299
Commercial fertilizer .... $1,000..	6 468	6 363
Other agricultural chemicals[2] .... $1,000..	4 590	3 462
Hired farm labor .... $1,000..	41 478	38 942
Energy and petroleum products .... $1,000..	21 009	14 200
Interest expense .... $1,000..	9 011	(NA)
Cattle and calves inventory .... farms..	1 076	1 027
number..	88 225	82 692
Beef cows .... farms..	281	234
number..	3 528	2 786
Milk cows .... farms..	830	845
number..	48 471	48 103
Hogs and pigs inventory .... farms..	218	227
number..	33 627	47 217
Chickens 3 months old or older inventory .... farms..	197	238
number..	1 241 102	1 422 557
Corn for grain or seed .... farms..	94	93
acres..	5 601	4 063
bushels..	550 464	366 169
Corn for silage or green chop .... farms..	674	703
acres..	35 299	35 852
Green weight..tons..	599 006	594 387
Irish potatoes .... farms..	91	95
acres..	3 691	3 357
cwt..	723 891	731 555
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. .... farms..	1 106	1 081
acres..	81 942	80 664
Vegetables harvested for sale .... farms..	566	479
acres..	13 717	12 448
Land in orchards .... farms..	208	169
acres..	7 976	6 745

[1] Data are based on a sample of farms.

[2] Data for 1978 include the cost of lime which was not collected in 1982.

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Appendix. **Effect of the Area Sample on Census Comparability**

The 1982 and 1978 Censuses were conducted primarily by mail. Despite every effort to assemble a complete list, a small portion of the Nation's farms were not included on the census mail list. To improve the coverage of the 1978 Census, especially in counting the number of small farms, the mail-out/mail-back enumeration was supplemented by the direct enumeration of all households in a sample of areas in all States, except Alaska and Hawaii. Due to budget reductions, the direct enumeration sample was eliminated in the 1982 Census.

In late 1978, enumerators visited all households in approximately 6,400 segments in rural areas (areas with less than 2,500 population) and completed a census form for each agricultural operation. These forms were then matched to the census mail list. Data from those cases which were not matched to the mail list were used to estimate the number and characteristics of farms not on the mail list at the State, regional, and national levels. No county-level estimates were developed because the area sample size was insufficient for reliable estimates at that level.

The U.S., region, and State data for 1978 shown in the 1978 Census of Agriculture publications included data for farms represented on the mail list plus estimates from the area sample for farms not on the mail list. To provide comparable data for 1982 and 1978, estimates from the area sample have been subtracted from the 1978 data. Thus, all 1978 data presented in the 1982 Census of Agriculture publications include data only for farms on the 1978 mail list.

In 1978, the area sample farms accounted for 9 percent of all farms in the United States, but only 1 percent of the total value of agricultural products sold and 1 percent of the land in farms. The area sample farms represented 25 percent of all farms with sales of less than $2,500. The contribution of the area sample farms to the total farm count varied widely by State, from a low of 2.0 percent in North Dakota to a high of 23.8 percent in New Hampshire.

The following table shows the 1982 results and adjusted 1978 data for farms on the mail list, as well as 1978 data which include estimates for farms not on the mail list.

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Appendix. Effect of 1978 Area Sample on Census Comparability: 1982 and 1978

Item		Data published in 1982 Census of Agriculture		Data published in 1978 Census of Agriculture		Percent of 1978 total represented by area sample portion
		1982	1978 adjusted[1]	1978 total[2]	Portion of total from 1978 area sample[3]	
Farms	number	5 403	4 946	5 881	945	16.0
Land in farms	acres	621 902	617 359	678 714	61 355	9.0
Value of land and buildings[4], average per farm	dollars	208 628	183 339	168 952	93 651	(X)
Total cropland	farms	4 941	4 645	5 526	881	15.9
	acres	266 065	276 686	311 030	34 344	11.0
Harvested cropland	farms	4 308	4 397	5 107	710	13.9
	acres	197 768	197 405	213 669	16 264	7.6
Irrigated land	farms	1 000	966	1 027	61	5.9
	acres	17 636	16 753	16 941	188	1.1
Farms by size:						
1 to 9 acres		921	798	987	189	19.1
10 to 49 acres		1 652	1 399	1 798	399	22.2
50 to 179 acres		1 813	1 698	2 010	312	15.5
180 to 499 acres		854	883	928	45	4.8
500 to 999 acres		130	137	137	-	-
1,000 to 1,999 acres		24	25	25	-	-
2,000 acres or more		9	6	6	-	-
Market value of agricultural products sold	$1,000	281 768	211 994	214 675	2 681	1.2
Crops, including nursery and greenhouse products	$1,000	139 475	100 079	100 829	750	.7
Livestock, poultry, and their products	$1,000	142 293	111 915	113 846	1 931	1.7
Farms by value of sales:						
$250,000 or more[5]		210	136	136	-	-
$100,000 to $249,999[5]		438	353	353	-	-
$40,000 to $99,999		711	698	698	-	-
$20,000 to $39,999		532	545	567	22	3.9
$10,000 to $19,999		530	507	559	52	9.3
$5,000 to $9,999		655	637	715	78	10.9
Less than $5,000		2 327	2 070	2 863	793	27.7
Farms by type of organization:						
Individual or family		4 541	4 087	5 017	930	18.5
Partnership		377	439	447	8	1.8
Corporation		415	358	365	7	1.9
Other—cooperative, estate or trust, institutional, etc.		70	62	62	-	-
Tenure of operator:						
Full owners		3 523	3 160	3 846	686	17.8
Part owners		1 481	1 465	1 685	220	13.1
Tenants		399	321	360	39	10.8
Operators by principal occupation:						
Farming		2 942	2 852	3 062	210	6.9
Other than farming		2 461	2 094	2 829	735	26.0
Female operators:						
Farms	number	571	383	453	70	15.5
Land in farms	acres	42 373	32 754	35 098	2 344	6.7
Operators by race:						
White		5 376	4 919	5 858	939	16.0
Black and other races		27	27	33	6	18.2
Corn for grain or seed	farms	165	182	240	58	24.2
	acres	6 077	4 634	4 911	277	5.6
Wheat for grain	farms	7	2	2	-	-
	acres	33	(D)	(D)	-	-
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc.	farms	2 663	2 520	3 078	558	18.1
	acres	116 729	118 929	133 117	14 188	10.7
Vegetables harvested for sale	farms	1 011	968	1 092	124	11.4
	acres	15 307	14 812	15 214	403	2.6
Land in orchards	farms	489	426	512	86	16.8
	acres	9 332	8 111	8 556	445	5.2
Cattle and calves inventory	farms	2 311	2 073	2 599	526	20.2
	number	102 366	96 951	102 226	5 275	5.2
Hogs and pigs inventory	farms	619	628	909	281	30.9
	number	39 570	54 586	59 626	5 040	8.5
Chickens 3 months old or older inventory	farms	727	685	944	259	27.4
	number	1 276 405	1 465 853	1 512 683	46 830	3.1
Estimated market value of all machinery and equipment[4]	$1,000	153 401	121 137	127 697	6 560	5.1
Energy and petroleum products[4]	$1,000	23 002	15 685	16 044	359	2.2
Hired farm labor, workers working 150 days or more[4]	farms	1 322	1 359	1 451	92	6.3
	number	5 159	5 801	6 076	275	4.5

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[1] Includes data only for farms on 1978 mail list—excludes area sample data.
[2] Includes mail list enumeration and area sample data.
[3] Data from farms not on mail list.
[4] Data are based on a sample of farms.
[5] Retabulated 1978 data for 1982 comparability.

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Massachusetts Nurserymen's Association
CRANBERRIES
Massachusetts grown ... and fresher!
Means Business
CAPE COD
HONEY

A "Massachusetts Grown and Fresher Means Business" conference and trade show were held at the State House in March, 1983. Governor Dukakis cut the ribbon for the show which featured exhibits on all segments of the agricultural industry. (see page 57)

BHP060611-6/7/83-BOSTON:Massachusetts Gov. Michael Dukakis drinks some milk in front of a group of unidentified children on Boston Common,6/6. This was all part the June Dairy Festival on the Boston Common sponsored by Dairy Industry of New England. Gov. Dukakis was on hand to sign a declaration for Massachusetts Agriculture in the Classroom Teaching Project. UPI vc/Steve Hart

Cover photo:

The Boston Common June Dairy Festival is one place to see dairy cows face to face. Various exhibits and fairs across the state help educate the public about agriculture in Massachusetts. (see page 63)